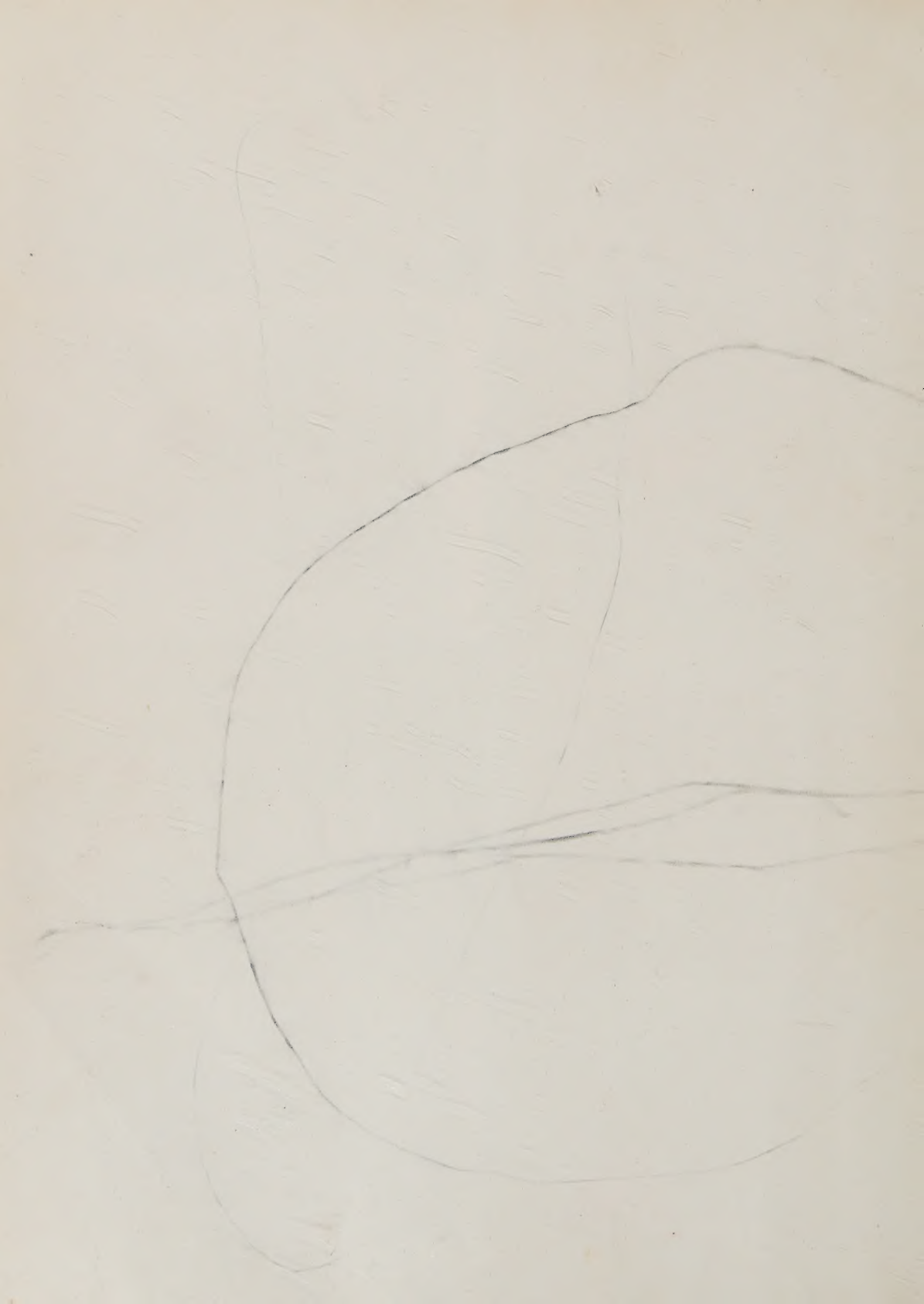
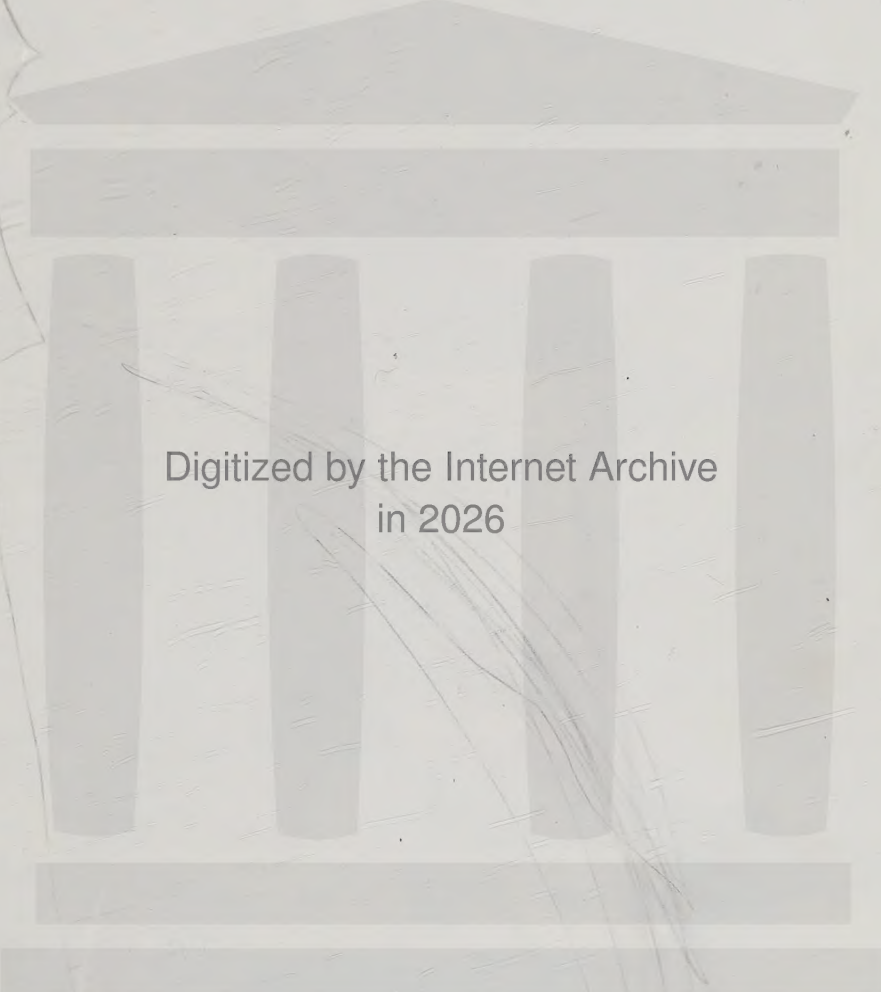












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MINIATURE VILLAGE

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The Bookshelf for Boys and Girls

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VOLUME V

Things to Make and Things to Do

THE UNIVERSITY SOCIETY, INC.

Educational Publishers since 1897

NEW YORK

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A Word to Parents about this Volume

THINGS TO MAKE AND THINGS TO DO

HERE at last is help—abundant, expert, and constructive help—for all parents driven to distraction by children's eternal demand, "Tell me something to do now."

This book, brimful of exciting and instructive ideas, includes so great a variety of "things to make and things to do" that every kind of child is sure to be intrigued by at least some of them. Here are enough stimulating projects to interest boys and girls of every age from three or four to the teens. And the best of it is that these projects (whether in the form of games, sports, puzzles, constructive activities, hobbies, or creative arts and crafts) do far more than merely keep the children happily occupied. These specific, easy-to-follow directions and graphic illustrations are designed to train children's minds as well as their fingers, to challenge their ingenuity, improve their coordination, sharpen their skills, and stimulate their resourcefulness.

What is more, many children who have never before been interested in reading can be led into it by an eagerness to find out, from this book, just how to play or do or make something they very much want to play or do or make.

You will be gratified to see how aimless, restless, or destructive children, engrossed in these activities can become creative and constructive. With a book like this to inspire them, many children are fired with ambition to become craftsmen, of one kind or another—mechanics, cooks, dressmakers, painters, photographers, sportsmen, builders, engineers.

The *Table of Contents* will show you the book's abundance and its variety of entertaining and educational occupations for boys and girls. These range from *Things for Little Ones to Play with by Themselves*, *Things to Make out of Odds and Ends*, *Fun with Crayons*, *Dolls, Gifts, Games, Pictures, Paper Crafts, Collections, Animal Companions, Modeling, Drawing, Painting, Kite Flying*, and *Fishing* to such enterprises for older children as *Gardening, Cooking, Sewing and Knitting, Printing, Photography, Carpentry, Magic, Puzzles and Jokes, Writing*, and many, many more.

ROSEMARY NICOLAIS, author and editor, has a sensitive understanding of a child's need to create and construct as well as to think and dream. She has had much experience in doing things with her hands as well as her wits—experience ranging from editing a magazine of crafts to working a farm and beautifying a home. She has a feeling for the arts and for growing things (including children) and she knows that whatever the new-fangled machines can do for us, there will always be respect for the dignity of work done by skilled hands and honest minds.

Many of the drawings have been made, with mechanical accuracy and a feeling for a child's need of graphic instruction, by the talented young illustrator, MAXINE FIELD.

Happy making and happy doing!



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FUN WITH DRAWING



Drawing can be fun, as the amusing suggestions and directions for drawing in the following pages show. They were made by the cartoonist Nat Falk, especially for this book. Try doing them yourself. You'll enjoy it.

Lollipop Figures



①



②



③



①



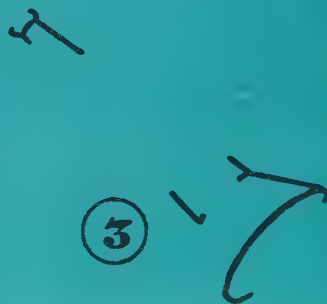
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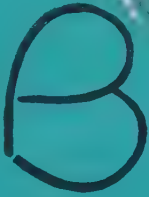
Start with lollipops, add lines and circles as shown, and you will have (TOP) a man running and (BOTTOM) a man about to make a speech.

Finish These Pictures



Trace the unfinished pictures here onto another sheet of paper and see if you can finish the three pictures by filling in the missing lines. If you do it right, you will get: (1) A Wooden Soldier; (2) A Pear; and (3) a Musical Horn.

Alphabet Faces



1



2



3



1



2

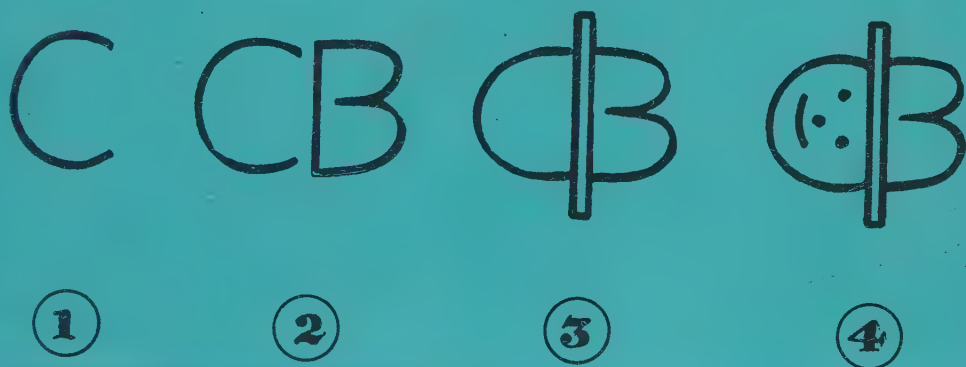
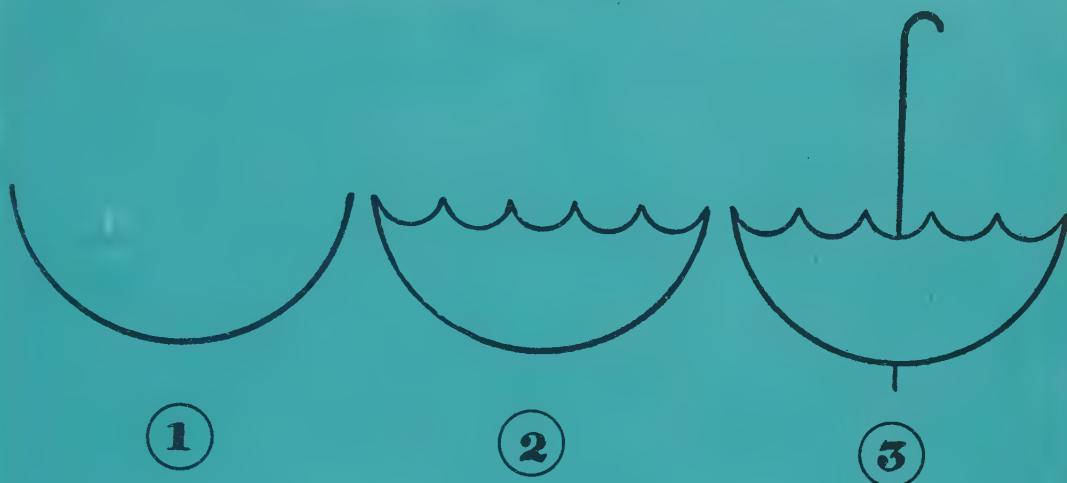


3

TOP ROW—1. Make a rounded capital **B**. 2. Add three dots for eyes and nose, and a line for the mouth. 3. Now you have a man's face. Put a pipe in his mouth.

BOTTOM ROW—1. Make a big capital **U**. 2. Put a long horizontal line on top of the **U** and a capital **M** on the top of that. 3. Add three dots for nose and eyes and a line for a mouth, and you will have a man's head with a hat on it.

Alphabet Pictures



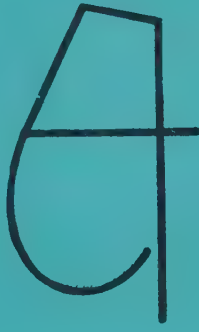
TOP ROW—1. Draw a wide capital **U**. 2. Add scallops across the top. 3. Put a cane down the center and you have an open umbrella upside down.

BOTTOM ROW—1. Draw a plain capital **C**. 2. Put a plain capital **B** next to it. 3. Connect by a narrow oblong between the **C** and the **B**. 4. Add three dots and a curved line, turn the picture sideways, and you have a man's smiling face with a hat on.

Number Faces



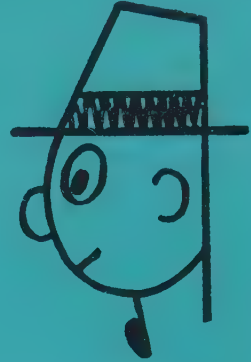
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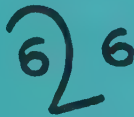
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④



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②



③



④

TOP ROW—1. Make a **4** with a long leg. 2. Draw a curved line below as shown and a slanting line across the top of the **4**. 3. Put a handle at the left of the curve and a line across the inside of the **4**. 4. Add the few curlicues shown and you will have a funny-looking man in a funny hat.

BOTTOM ROW—1. Make a **2** with its top leaning to the left. 2. Put a small **6** on both sides of the **2**. 3. Put an eyebrow over the right-hand **6** and a line under the **2**. 4. Fill in the **6**'s, draw an oval around the whole thing, add an ear and a couple of hairs and you have another man.

Number Picture



1



2



3



4

1. Make a big **3**. 2. Add curved lines to make the **3** an **8** open at the top. 3. Put a small circle in the open space at the top. 4. Put 3 dots and a comb in the small circle for a face, add a hat on top. In the middle circle add three dots for buttons and add a broom. Now you have a snowman.

More Number Pictures



①



②



③



①



②



③



④

TOP—1. Draw a **4** with a very short leg. 2. Draw a slightly curved line under it, as shown. 3. Add two curved lines under that and you have a sailboat.

BOTTOM—1. Make a **5**. 2. Make a long curve out of the top, as shown. 3. Draw another curved line at the bottom, as shown. 4. Close the tail, draw fins and an eye, and you have a whale.

Circle Animals



1



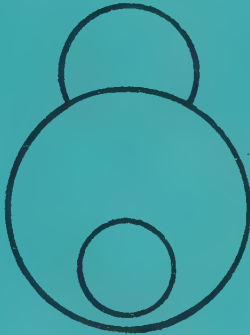
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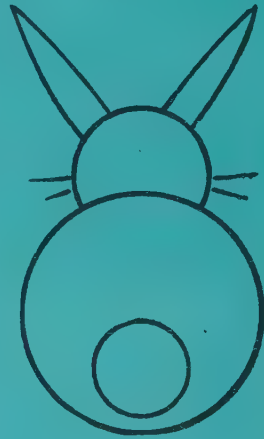
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1



2



3

TOP ROW—1. Draw a circle. 2. Add another smaller circle, inside, near the bottom. 3. Add ears, eyes, nose, whiskers, and tail, and you have a cat.

BOTTOM ROW—1. Draw a circle. 2. Put a small circle inside near the bottom and part of a circle on top. 3. Add long ears and whiskers and you have the back of a rabbit.

Circle Faces



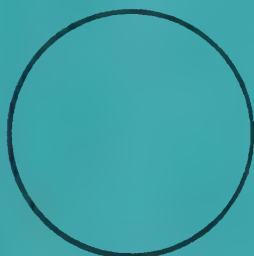
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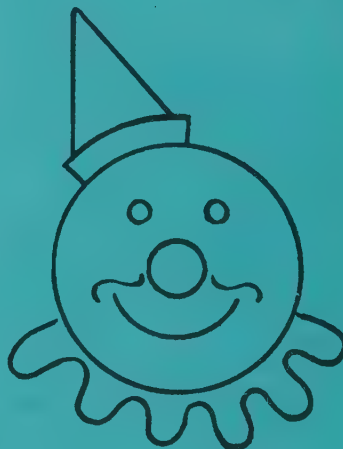
3



1



2



3

TOP ROW—1. Draw a circle. 2. Inside the circle draw two circles for eyes, a large wide **V** between them above and a small narrow **v** below. 3. Fill in and complete as shown, and here is an owl.

BOTTOM ROW—1. Draw a circle. 2. Put three small circles and a curved line inside the big circle. 3. Complete the face by curved laugh lines, add a hat and a frill for a collar, and you have a clown.

Circle Picture



1



2



3



4



5

1. Draw a big circle. 2. Add two dots and two lines, as shown. 3. Lengthen the dots and the lower line, making a triangle nose on the middle line, and you will have a face. 4. Lengthen mouth and eyes some more, add a line under the nose, and draw in a curly lock of hair on the forehead. 5. Finish the picture as shown and you have a sailboat on the water by a dock.

Square and Triangle



①



②



③



①



②



③

TOP ROW—1. Draw a square. 2. Put a roof on it. 3. Fill in the roof, add chimney, windows, and door, and you have a house.

BOTTOM ROW—1. Draw a straight up-and-down line and make a triangle to the left of it. 2. Make another triangle to the right of it, extend the center line down a little and draw a lying-down line under it. 3. Add bottom lines and curves as shown, add a flag on top, and you have a sailboat.

Curly Snail



1



2



3



4

1. Start with a small curly **6** lying on its side. 2. Continue from the top of the **6** and go around twice as shown. 3. Close up at the bottom and add the little piece at the left, making a snail shell. 4. Finish as shown and you have a snail coming out of his shell.

Birds



1



2



3



4



1



2



3



4

TOP ROW—1. Draw this curved line. 2. Make a bird's breast by drawing the curve at the left. 3. Add the wing curve. 4. Add eye, bill and legs, and you have a bird.

BOTTOM ROW—1. Draw a circle. 2. Add the duck-like shape below the circle. 3. Add a curved line inside the duck-like shape and a small circle inside the larger one, as shown. 4. Add bill, eye, and legs, and you have another bird.

Making Faces



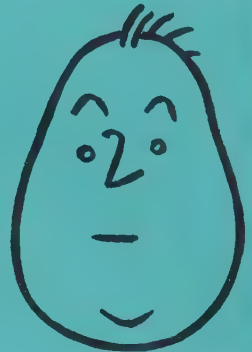
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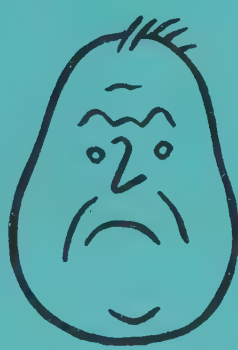
④



⑤



⑥



⑦



⑧

1. Draw a pear. 2. Put in a **2** and a small curved line as shown. 3. Add two small circles on either side of the **2**. 4. A straight line below the **2**, two eyebrows, and a few strokes on top, and you have a face. 5, 6, 7, 8. Any one of these four different expressions can be made on the pear-face by drawing the lines shown after you have drawn Figure 3.

Fruit Pictures



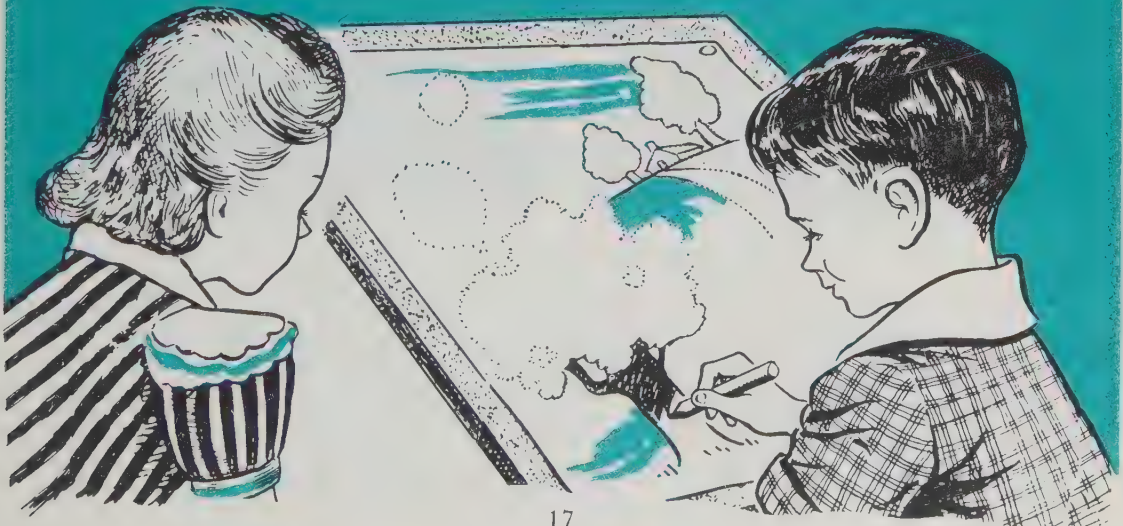
TOP ROW—1. Draw a banana. 2. Add tall semi-circle above left, as shown. 3. Draw a heavy line in the banana and a heavier band above, and you have a man's hat.

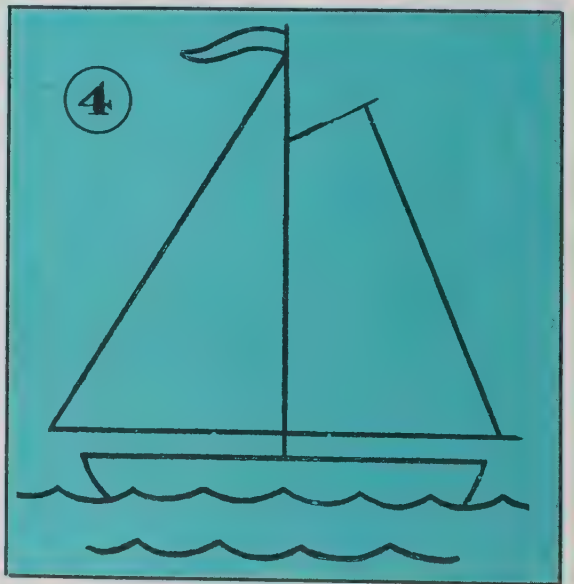
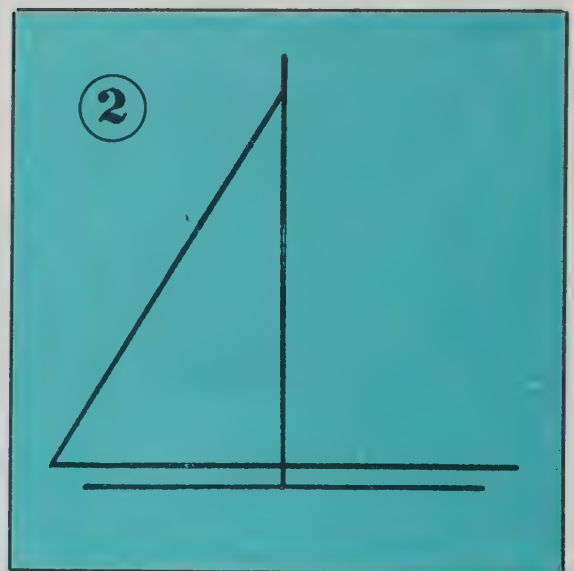
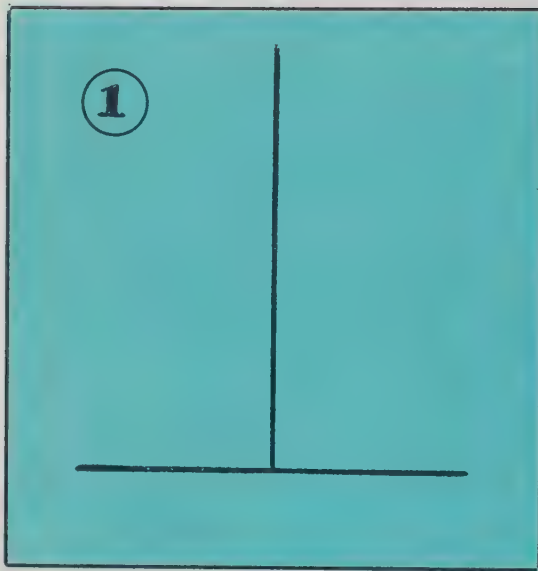
BOTTOM ROW—1. Draw an outline of an apple. 2. Fill it in and draw two dots above. 3. Put two curved lines above the dots, enclose in an oval, add ears and hair, and you have a man with his mouth open.

FUN WITH CRAYONS

In the following pages you will find some step-by-step directions for drawing pictures.

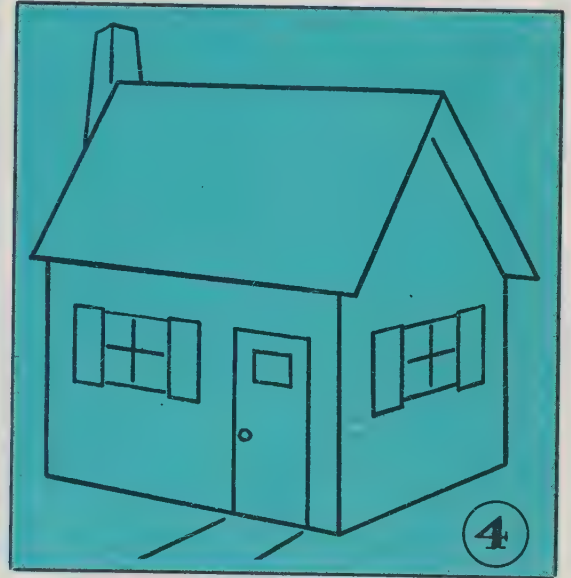
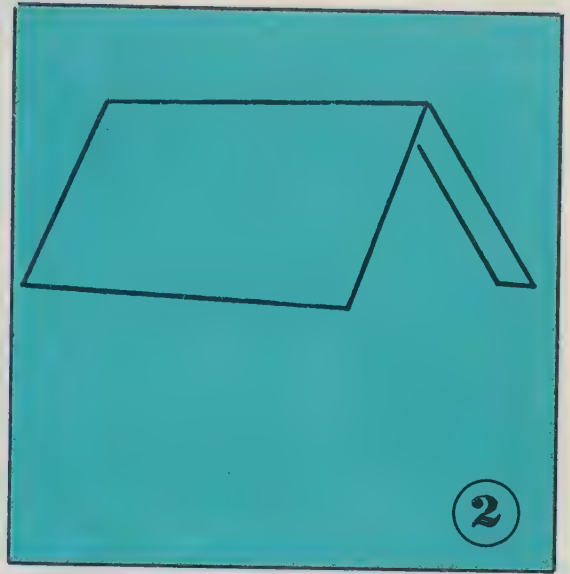
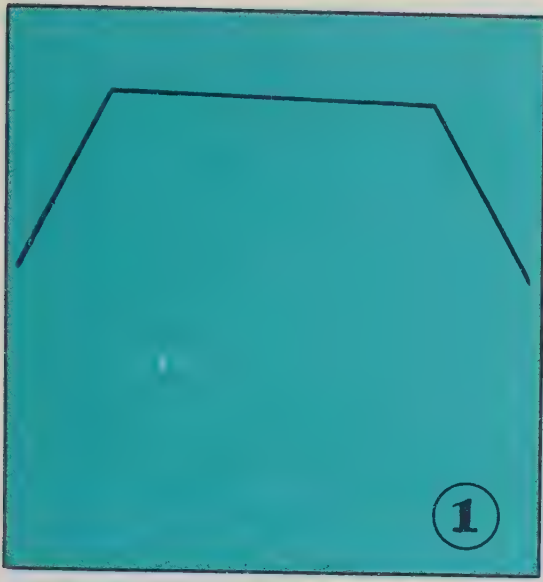
When you make your copies of the pictures, make them on large sheets of paper, much larger than they are in this book. After all, it takes us **FOUR** pictures to show you the steps for drawing what will be just **ONE** finished drawing when **YOU** make it. You can color your pictures as you like after you have drawn them.





DRAW AND COLOR THIS SAILBOAT

1. With a soft black pencil or crayon, copy this upside down **T** on a large sheet of drawing paper. Make your drawing four times as large as it is here. 2. Draw a sail at the left of the up-and-down line as shown. 3. Draw a sail at the right as shown and two short lines below. 4. Add wavy lines for water and put a flag on top. Color your sailboat, flag, water and sky as you choose.



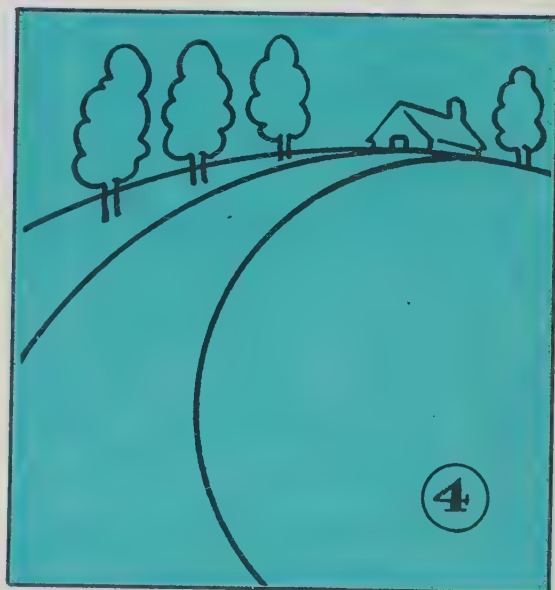
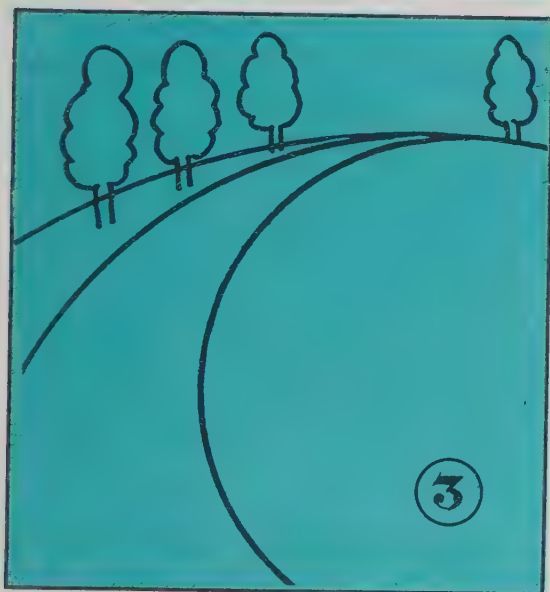
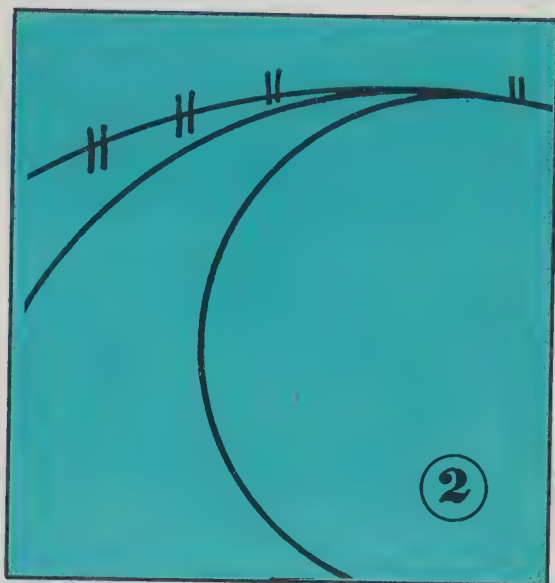
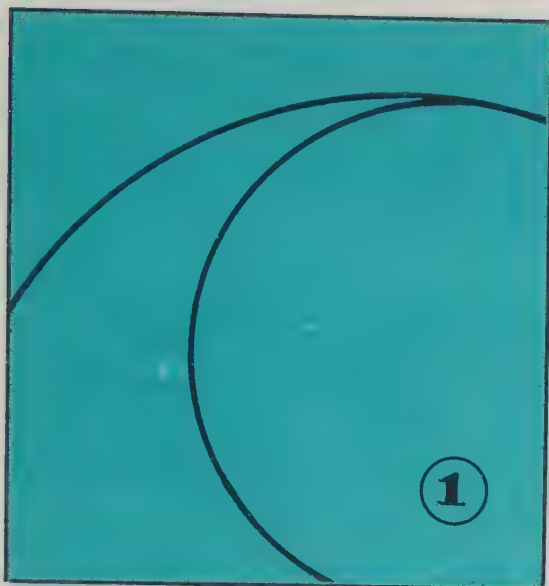
DRAW AND COLOR THIS HOUSE

1. With a soft black pencil or crayon, copy these lines on a large sheet of drawing paper. Make your drawing four times as large as it is here. 2. Add lines as shown to make a roof. 3. Put a chimney on the roof and draw the outlines of a house beneath the roof. 4. Draw windows, shutters, door and path. Color as you choose, with crayons. Be careful to stay within your black outlines.



DRAW AND COLOR THIS LANDSCAPE

1. With a soft black pencil or crayon copy this odd cloud-like shape on a large sheet of drawing paper. Make your drawing four times as large as it is here. 2. Add two lines below the cloud-like shape. 3. Add the two curved cross-lines as shown. 4. Draw a straight cross-line as shown and add a capital **M** at the left. You have now drawn a landscape containing grass, a tree, a road, sky, and a distant mountain. Color as you like.



DRAW AND COLOR THIS LANDSCAPE

1. With a soft black pencil or crayon copy these two curved lines on a large sheet of drawing paper, making them four times the size they are here. 2. Draw another curved line above and four sets of short stalks as shown. 3. Add the four irregular shapes above the short double lines. 4. Add a small house as shown. You now have trees, and a house on top of a hill with a road leading up to it. Color with crayons as you think it ought to look.

Things to Make and Play With by Yourself

Some days you have no one to play with. Or perhaps it's raining and you don't know what to do. Here are some toys you can make and games you can play by yourself.

Surprise Ball

YOU WILL NEED:

- Absorbent cotton
- Thread
- Hard candies
- Small toys or gift objects
- Colored paper ribbon
- Scissors

Have all the things you are going to need near you on the table. First you'll want the surprise gifts that you are going to put inside the ball. Here are some ideas for what you can give: a whistle, a tiny automobile, a barette, a toy wrist-watch, a tiny doll, a few candies.

Take a flat piece of cotton and, as



you roll it into the shape of a ball, lay a little gift in it. Then cover the gift with cotton and tuck a candy in the cotton. Go on in this way until you have filled the ball with about four or five candies and one or more presents.

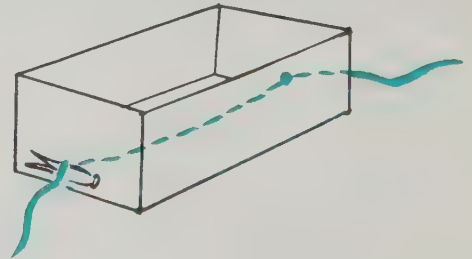
Pat the cotton into a ball shape. Lay a thin layer of cotton over the whole ball so that nothing shows through. Wind white thread around it to hold the cotton in place. When it is securely tied, take your pretty colored ribbon and tie it around the ball as you would tie a package. Make a bow on top.

Shoe-Box Train

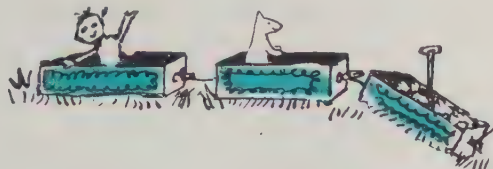
YOU WILL NEED:

- A few shoe-boxes
- Some cord
- 6 clothespins or small sticks
- A nail or pair of scissors

Just take a few uncovered shoe-boxes



or boxes of similar size. Punch a hole near the bottom of each of the narrow ends. Tie a clothespin on the end of a cord. Then, starting on the outside of the box, run the cord through the hole



so that the cord comes through into the inside of the box. Now pull the cord along the floor of the box and out through the other hole. Then knot a second clothespin on the outside of this end of the box.

Connect two or three boxes in this way. Now you have a train to fill up with toys or pebbles and pull around.



Picture Letter

YOU WILL NEED:

- Paper
- Pencil
- Paste
- Scissors
- Old magazine

Writing a picture letter is one of the most interesting things to do. You write



some words and then, every so often, instead of writing a word you put a picture of the word in its place. You can either draw these pictures or you can cut them out of old magazines and paste them in place.

Here's a sample letter, just to give you the idea; but you will have loads of fun making up your own letters or stories.

Dear Aunt Mary,
 Thank you for
 the lovely
 love
 has to be
 to be
 We had a  this
 year. It was
 beautiful. Even our
 liked it. I
 hope to see you soon.
 Love,
 Betty

Paper Bag Mask

YOU WILL NEED:

A paper bag

Scissors

Crayons



Table Playhouse

YOU WILL NEED:

An old sheet or tablecloth, or
piece of material

Scissors

Crayons

This private little playhouse is so cozy. It can be your own special bunk, and you can have lots of fun playing in it. It's very easy to make. Here's the way to make it!

Lay an old sheet over the table so that it hangs down evenly on all sides. It must be large enough to just about

One of the nicest things about this mask is that it is so comfortable. It will stay put through all sorts of games and fun. There are no strings (which are always tearing off) to worry about.

Take a paper bag large enough to go over your head comfortably. Cut out eye-holes. You really don't need a nose hole, for there is plenty of room under the bag for you to breathe.

Draw a face right on the bag. You can cut the top of the bag into a point and draw a clown's face on it; or you can cut the top into a pair of ears and draw a pussycat's face on the bag, whiskers and all. You will think of all sorts of faces to make. In fact, with a half-dozen bags, you can make many different costume masks and play and pretend that you are different people or animals.

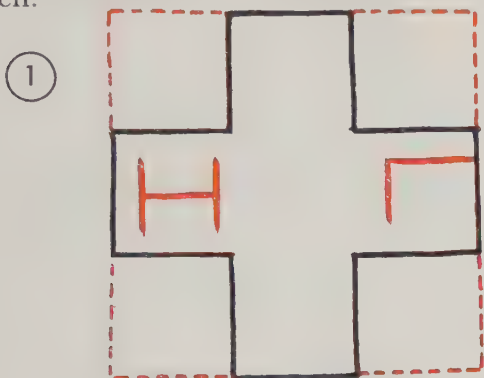
reach the floor. With your crayon, make a mark on the sheet where it touches the four corners of the table. Then lay the sheet out flat on the floor.

Now cut out four square pieces of material from each corner of the sheet. Do this by cutting straight in from the outside edge of the sheet to each of the crayon marks which you made. The black lines in *Picture 1* show the shape your sheet will be when you cut away the four corner squares.

The solid colored lines in *Picture 1* show where you cut a window and a door, if you'd like to have them.

Picture 2 shows your Table Playhouse cut out and spread out flat. The colored dotted line in *Picture 2* shows where the door and window are folded back and where the sheet will fall over the table edges.

It's a good idea to hem the raw edges of the sheet. If you are going to have a door and a window, sew snaps on the material by which you can keep them open.



This playhouse will last for years and can easily be washed when it gets soiled.

Comb Kazoo

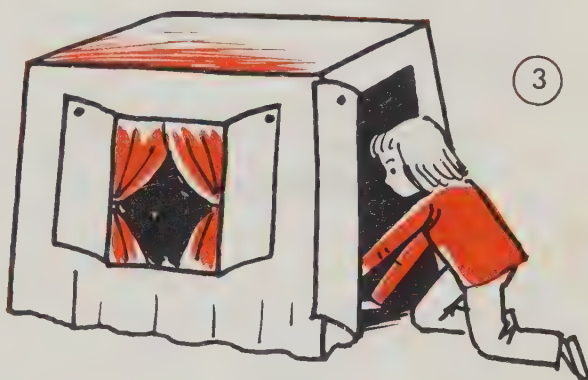
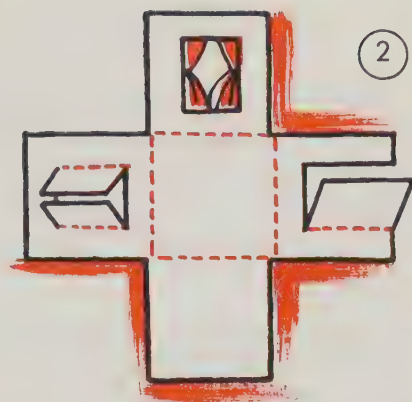
YOU WILL NEED:

Comb

Tissue paper

Singing through a comb kazoo sounds wonderfully like a real musical instrument. You can pretend that you are at the head of a parade, and march to the loud music you make. Here's how to make and play a comb kazoo:

Wrap a piece of tissue paper around a comb. Hold the paper over the teeth of the comb while you place the comb



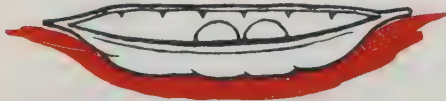
against your lips. Now, keeping your lips open a bit, sing out nice and loud—into the comb.

Pea-Pod Boat

Here is a way to sail a boat indoors.

A wash-basin or a sink filled with water makes a very good pond. So does a dish-pan. Maybe your mother will let you have hers if she uses one for washing dishes.

You make a boat yourself. It's easy when you are going to have peas for dinner. The peas have to be shelled. Each half of a shell is the shape of a perfect little canoe. You can sail as many of these pea-pod canoes on your pond as



you like. You can leave one or two little green peas in each of the pods, because they can be paddlers, though it will sometimes need a touch of your finger to steer the boat in the right direction.

It's a good idea to make a little hole in the bow of the boat and tie a thread through it. Then you can haul on the line and pull your boat back into harbor when you want to.



Walnut-Shell Boat

If you want to make a walnut-shell boat crack your walnuts gently into two perfect halves. Then, when you have cleaned out all the kernel inside both halves, you will have two little boats.



Place them on the water and they will float. They are boats already, just as they are. But you may want to build something that looks more like a real boat. You want it to have a mast, perhaps two masts, and a flagpole. Toothpicks or matches (that have been



burned, of course) make good masts when you stick them into a little ball of modelling clay or melted sealing-wax or chewed chewing-gum. You can add a sail or a flag by gluing a scrap of tissue-paper or gauze to the mast or flagpole. You can have a whole fleet of walnut-shell ships, all flying different flags, or two fleets, one with red sails, the other with blue or green. As for the crew they can be toothpicks dressed in gray or blue scraps from the rag-bag. And of course they will also have their feet stuck to the decks by chewing-gum or clay or they would soon be overboard in rough weather.



Costume Trunk

Everybody loves to dress up. Ask Mother for a bag or box. In it you can keep all the odds and ends of clothing and bits of ribbon or fur that she doesn't need any more.

Don't think that anything is too worn out to use. Not at all! You will use these things again and again to dress up as Pirate, Dancer, King or Queen—or anybody else you'd like to be!

Here's a list of things to put in your costume trunk:

- Lace curtains (to be a bride)
- Kimonos
- Lengths of material
- Old evening gowns
- Sashes
- High-heeled slippers
- Pieces of fur
- Ribbons
- Veiling
- Flowers
- Hats
- Costume jewelry

Indian Chief

YOU WILL NEED:

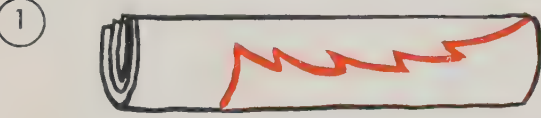
- A sheet of wrapping paper
- Scissors
- A safety pin or clip
- Crayons

This Indian war-bonnet is very easy to make. It will only take you a few minutes to cut it out and color it. If you throw a colored blanket over your shoulders and put on this Indian head-dress, you will have a really exciting Indian costume in which to play *Indian*.

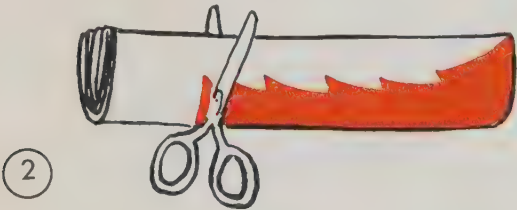
Take a sheet of wrapping paper. Cut it to measure about 10" by 22". Now fold the long side in half, making it 11" wide. Fold it once again, making it 5½"



wide. Then once more, and still once more again. By folding it four times in this way, your paper will be sixteen layers thick.



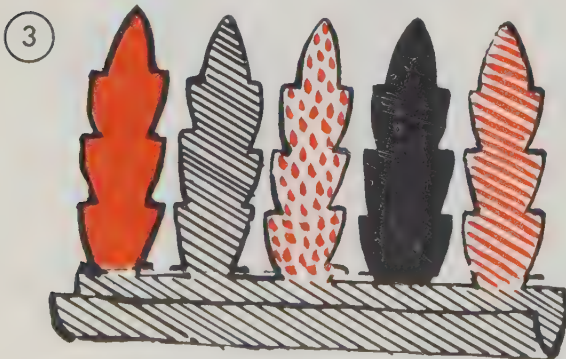
Draw the shape of half a feather on this strip (*Picture 1*). Start about three inches up, on the paper. The colored line shows what you draw.



Now look at *Picture 2*. Cut along the colored outline, making sure to cut through all thicknesses. You cut away the entire colored area.

Now unfold your headdress. You will have a fine row of feathers standing up from a headband. (*Picture 3*). Fold the headband over double. This will make it stronger. Fasten it around your head with a safety pin or clip.

If you crayon each feather a different color, this headdress will look magnificent—just like those worn by the real Indian chiefs.



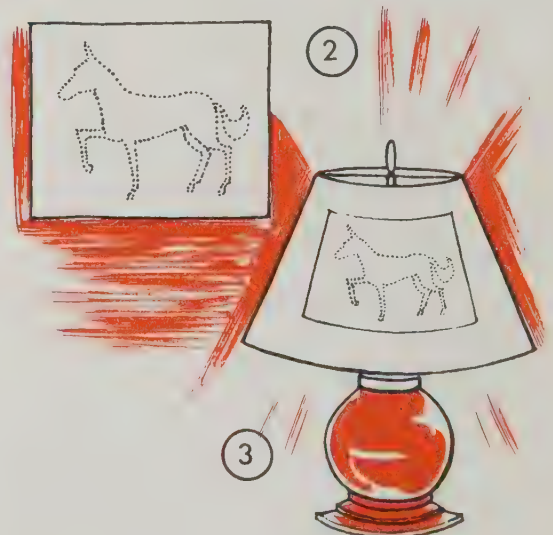
Light-Up Picture

Draw a picture or cut out one you like from a magazine. Paste it on a piece of thin cardboard and cut the cardboard the same shape as the picture (*Picture 1*).



Prick holes with a pin along all the lines of the picture, spacing the holes evenly (*Picture 2*).

Hang it on a lampshade when it is finished. Turn on the lamp switch and the light will shine through all the pinholes outlining your picture (*Picture 3*).



Parachute

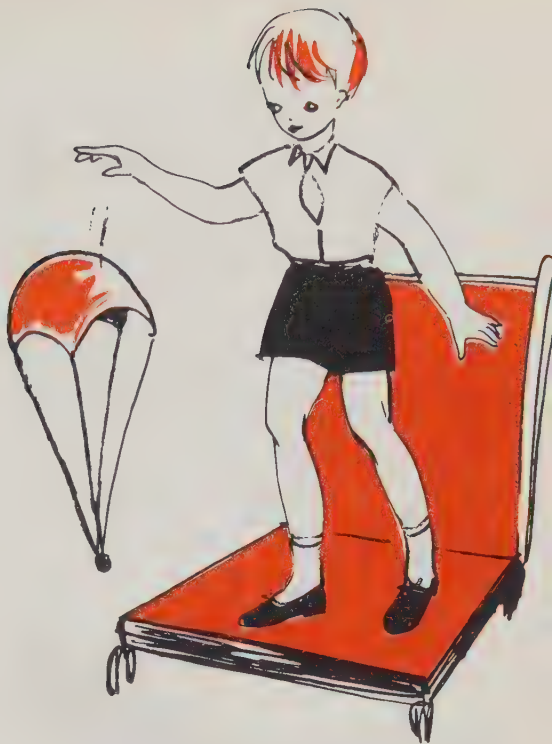
YOU WILL NEED:

- A paper napkin
- String
- A cork

This simply-made parachute floats down to the ground just like a real parachute. You can have fun playing with it by yourself, or you can have contests with your friends to see whose parachute hits the ground *last*.

Cut four lengths of string, each about 12" long. Tie a piece of string to each corner of the paper napkin. Then tie the loose ends of all four strings around a small cork, and your parachute is done.

Hold the parachute by the middle of the top of the paper napkin. Stand on a chair and drop your chute. Now watch it float gently down.



quite a lot, pull the two ends apart with a quick movement (*Picture 3*). The string will unwind, and it will spin the button so fast that it will twist the string in the opposite direction. Just by moving your hands together and apart in the proper rhythm, you can keep the button spinning, without having to wind up the string more than once.

Button Spin

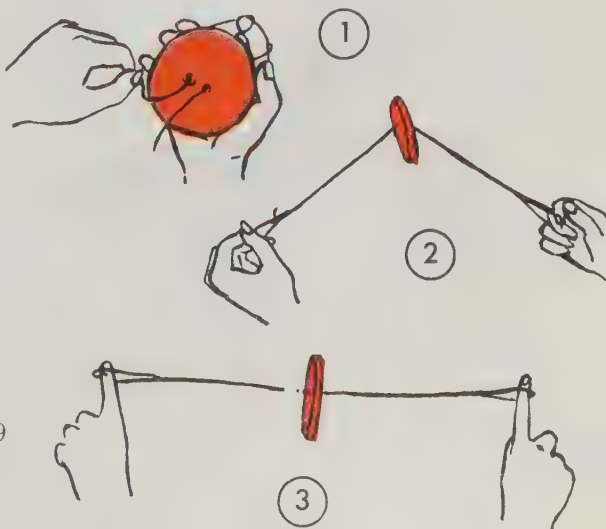
YOU WILL NEED:

- A large button
- A piece of string

Pass a piece of string through one hole of a large button and then back through the other hole (*Picture 1*). Now tie the ends of the string together.

Slide the button to the middle of the string. Then, hold on to the two ends of the string and swing the button round and round. As the button makes a circle, it will twist the string (*Picture 2*).

When you have twisted the string

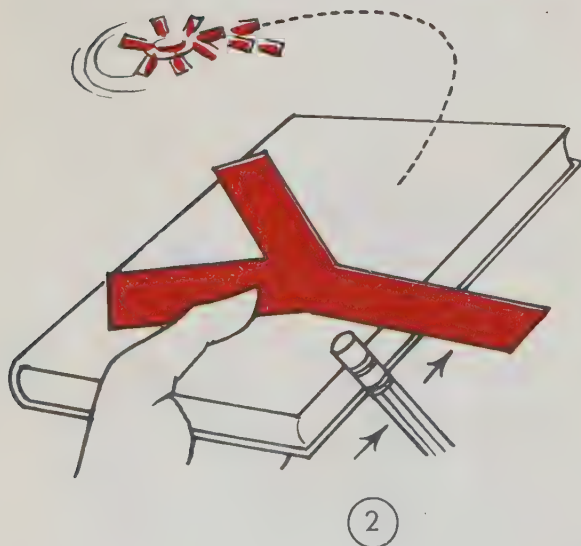
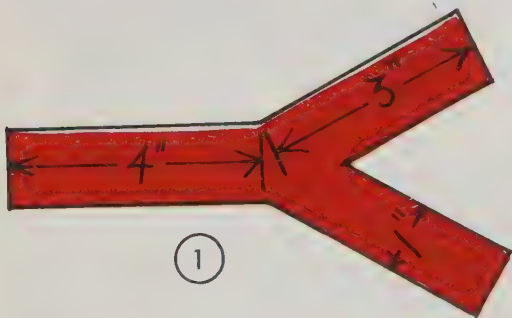


A Boomerang

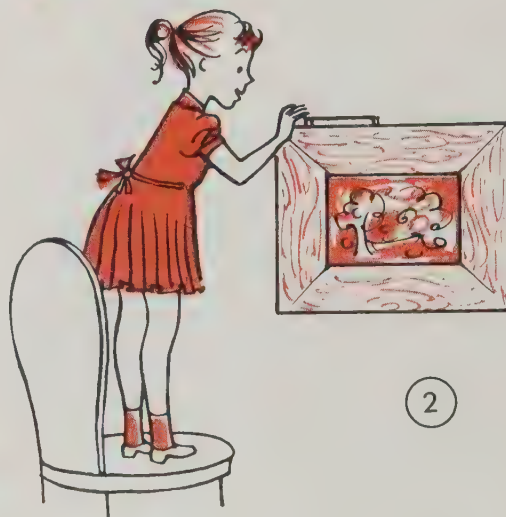
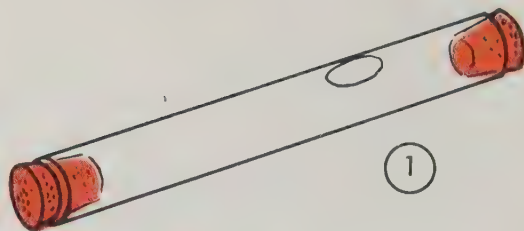
Cut a piece of cardboard into a "Y" shape (*Picture 1*).

The top arms should be 3" long, the bottom stem 4", and each section an inch across.

To make the boomerang fly, lay it across a book with the stem sticking out over the edge. Tilt the far end of the book up a little. Now give a sharp rap to the side of the stem, and the boomerang will fly off into the air and come back to your feet (*Picture 2*).



Carpenter's Level



You can make a carpenter's level out of a glass tube or the kind of plastic tube a toothbrush comes in at the dime store.

Cork up the open end tightly and then fill with water nearly to the top (*Picture 1*).

Lay the tube on a flat surface. If this surface is perfectly level the bubble inside the tube will be exactly in the middle. If the surface is not quite level the bubble will be off center one way or the other (*Picture 2*).

Use your carpenter's level to see whether the pictures are hanging straight in your room.

Toys of Cork and Matches

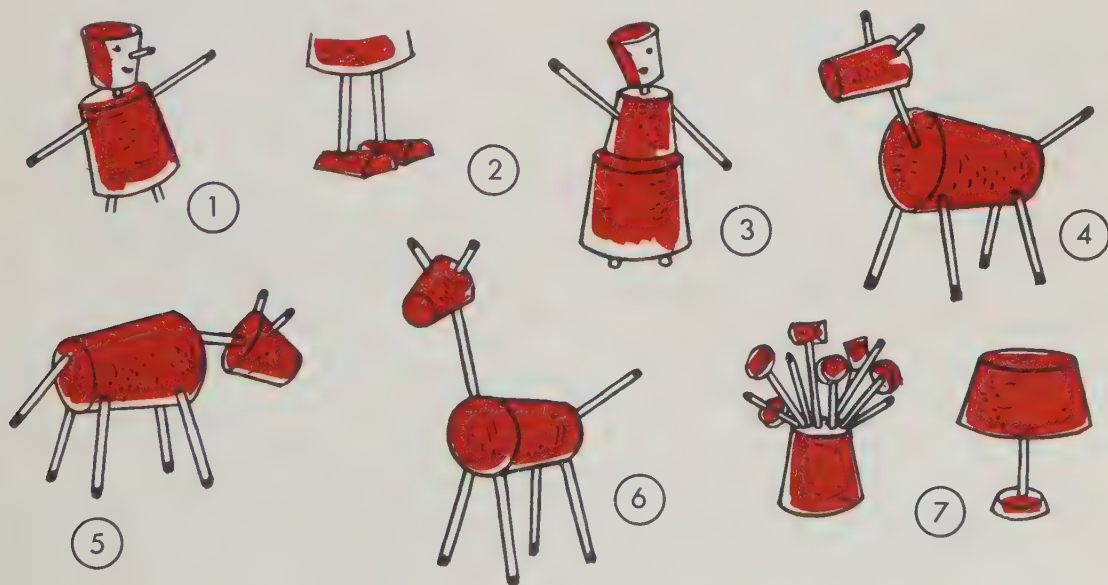
Ask your mother for some big corks and some small corks, as many as she can spare. Look around for some matches—burned out ones, of course. With these you can make quite a lot of different toys.

Try making a father-doll first. Pick a big cork for the body, a rather small one for the head, and join the two together with a piece of match (Picture 1). Then make eyes, nose and mouth with pieces of match—just the tiniest burnt ends for the eyes, but the nose can be any length you like, and you can tilt it at any funny angle. Make the legs with whole burned-out matches, and the arms too. And if you want him to stand up you can cut flat little pieces off the ends of two corks and stick these on the end of each leg for feet (Picture 2).

To make a mother-doll, do the same, but instead of long match-legs give her a skirt. The skirt is just another, bigger cork, and you can stick tiny bits of match into the bottom of the skirt for feet (Picture 3).

When you make animals, remember that a horse's legs and neck are long, and that he holds his head high (Picture 4). A cow, too, has long legs, but she rather droops her head (Picture 5). You can make donkeys, goats, dogs and cats, all with different-sized bodies, and heads and legs and arms of different lengths. You'll have to use the longest match you can find if you try to make a giraffe! (Picture 6).

Look around you for ideas. What about making a vase filled with flowers, or a wide-spreading tree? Would you like to make lamps—little table lamps and big lamps that stand on the floor? (Picture 7).





Things to Make Out of Odds and Ends



See what you can make out of ordinary cardboard boxes, pieces of wood, tin cans, bits of string and wire you find about the house. Some of the things described here are easy, some not so easy, but you'll find all of them great fun.

A Top

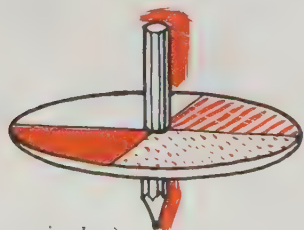
YOU WILL NEED:

- A piece of cardboard
- Cup
- Pencil
- Scissors
- Crayons

This top will spin long and merrily for you. Here's how to make it.

Using a cup as a guide, draw a circle on a piece of cardboard. Just turn the cup upside down and run your pencil around it.

With your ruler and pencil, divide the circle into 4 sections. Color each section a different color with your crayons. Then cut out this round piece of cardboard with your scissors.



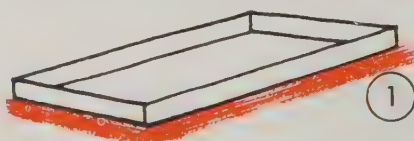
Now push a short pencil through the middle of the cardboard circle—and spin your top!

Shoebox Cradle

YOU WILL NEED:

- A shoe-box
- 4 paper fasteners
- Scissors or single-edged razor blade
- A pencil

Wouldn't you like to have a cradle to rock your doll in? You can turn a shoe-box into a pretty doll's cradle in just a few minutes in the following way:

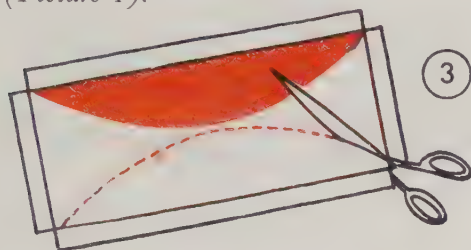


Picture 1 shows the lid of a shoe-box. Flatten down the sides and draw the outline of a rocker, as shown by the broken colored line (Picture 2). You can use a pot cover to make the curve.

Then cut along this curved line. The colored portion of Picture 3 shows the

shape of the piece you will cut out. This is one rocker. Lay this cut-out rocker on the remaining part of the lid and draw an outline around it. Now cut out the other rocker. It will be the same size as the first one.

Use paper fasteners to attach the rockers to the end of the shoe-box. Your cradle is now ready for your doll to sleep in (Picture 4).



FUNNY MUSTACHE

YOU WILL NEED:

- Paper
- Black crayon
- Cord

Here is a pattern of a really fine mustache. Copy it or trace it onto a



piece of white paper. Color it nice and black. Now cut it out. Poke two small holes in it as shown in the pattern.

String cord through the holes. Now place the mustache under your nose and tie the cord around your head, making a bow. The mustache will stand out and you will look very funny.

FLOWER GARLAND

YOU WILL NEED:

- Some leaves
- Some flowers

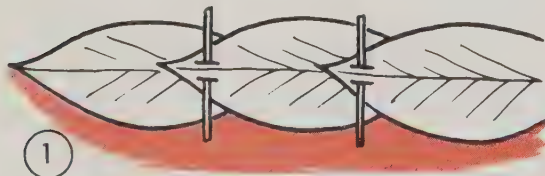
Everybody likes to make garlands of fresh leaves and flowers. This lovely wreath is so easy to make that you can complete it in just a few minutes.

Pick leaves with long stems, because the stems are going to be used as pins.



To start, take two leaves and cut off their stems, laying the stems aside. You know there is always a shiny side and a dull side to a leaf. Lay one leaf over another, but make sure that you place the dull sides up.

With your fingernail or anything pointed, tear two little slits through the overlapping leaves. Now take one of the stems and push it through one slit — making sure to go through both leaves — and back through the other slit. This will pin the two leaves together (*Picture 1*).



Pin all leaves together in the same way. Continue until you have a garland long enough to go around your head. It is a good idea to measure your garland around your head for size before you pin the last two leaves together. Be-

fore you do this, turn the garland over so that the shiny side of the leaves will show when you have the headdress on.

Now add the flowers. Stick the flower stems under the pins that connect the leaves of the garland (*Picture 2*). You can stick two and sometimes three flowers in each spot if the stems are thin and short.



CLUB BUTTON

YOU WILL NEED

- A large button
- Needle and thread
- A safety pin
- Paper
- Crayons or paints
- Scissors
- Paste

You can make a good-looking club button or lapel ornament in this simple way: Choose a nice large button. Sew a safety pin to the back of the button (*Picture 1*). As you can see, you leave the pin part of the safety pin free. In that way, you will be able to open and close the safety pin easily.

Now, lay the button down on a piece of paper and run your pencil around it.

1



2





In this way you will make a circle exactly the same size as the button. Draw a design or picture in the circle and then cut it out.

Now paste the cutout on the front of the button. It will cover the whole button (*Picture 2*). In this way you and your friends can all make the same buttons which will be your club insignia.

DOLL'S HEAD BEAN BAG

YOU WILL NEED:

A piece of heavy paper or cardboard 5½"x5"

A piece of felt, red or green, 11"x5"

Wool scraps

Needle and thread

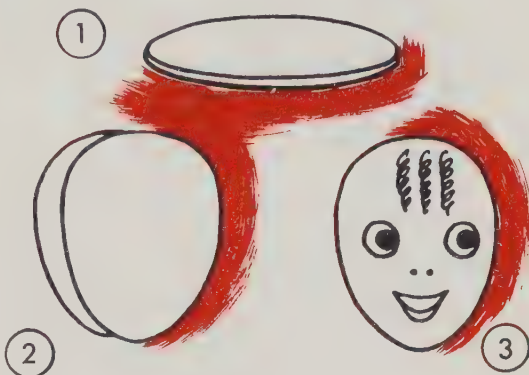
Dried beans

Colored handkerchief

This bean bag is made in the shape of a girl's face.

Draw and cut out in heavy paper or cardboard a rough oval about 5½" long by 5" wide (at the widest part) (*Picture 1*).

Place this cardboard pattern on a doubled piece of dark felt—red or green—and cut out two ovals (*Picture 2*). On one sew two little round pieces of white flannel, or some other white material you may have in a scrap-bag, for eyes.



Add two bits of black wool for the pupils. Sew on two small black knots close together for a nose, and sew two or three curls of black wool on the forehead (*Picture 3*).

Sew the two ovals together, using a back-stitch a quarter of an inch from the edge, leaving a small opening at the



top (Picture 4). (See page 317 for how to sew a back-stitch.)

Pour about half a cup of dried beans into the bag and sew up the opening.

Fold a colorful handkerchief from corner to opposite corner, and drape this triangle on the doll's head as shown in the picture. Sew the handkerchief firmly to the back of the head and stitch in several places to the forehead.

HOW TO MAKE A WHISTLE OUT OF WOOD

YOU WILL NEED:

An empty spool
2 small pieces of wood
Glue
Knife

Cut off one ridged end of the spool. Cut away from yourself whenever you use a knife (Picture 1).

Near the other end cut a notch deep enough to reach the hollow groove that

runs through the middle of the spool (Picture 2).

Cut two wooden plugs to fit into the open ends of the spool. One of these should close the end completely. The other should close the end only half way. Glue both plugs in place (Picture 3).

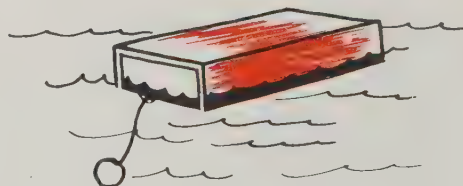
Now blow through the half-closed end as hard as you like. Your breath will come through the notch in a shrill whistle (Picture 4). (See page 138 for how to make a paper whistle.)

MYSTERIOUS MATCH-BOX

YOU WILL NEED:

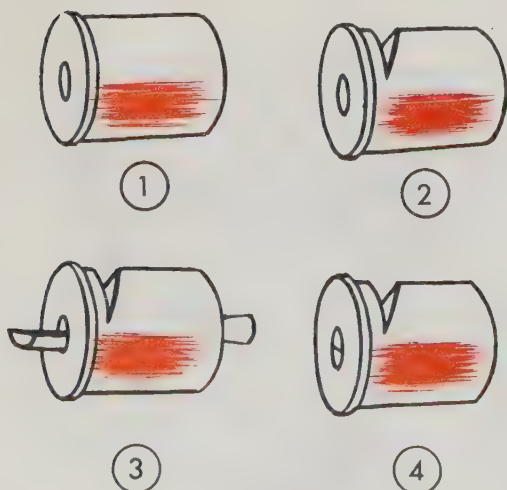
A safety match-box
Thick glue
Piece of string
Small piece of camphor

Here is a clever little toy that will give



you hours of fun. It will also baffle your friends as they try to figure out what makes the match-box sail round and round in a dishpan full of water.

Take a safety match-box and waterproof it with a thick glue or the "dope" used for model airplanes. With a short piece of string, tie a small piece of cam-



phor to one end of the box, letting the camphor hang into the water. The action of the camphor in the water will make the match-box move around mysteriously. You can get a bit of camphor at almost any drugstore.

You can make any kind of small boat move gracefully by tying camphor to one end.



STRING TELEPHONE

YOU WILL NEED:

- 2 tin cans
- Small piece of heavy paper
- String
- 2 buttons

One of the most interesting novelties you and a friend can make is a string telephone. It really works! Cut both ends off one tin can and cover one end with heavy paper.

Next, take a length of string and run it across a piece of wax—a candle will do—so that the string is wax-coated.

Tie a button on one end and run the string through a hole in the center of the paper on the can. The button will keep the string from slipping through



the hole. Now, do exactly the same thing with the other end of the string and the second can, so that you have a tin can on both ends of your string.

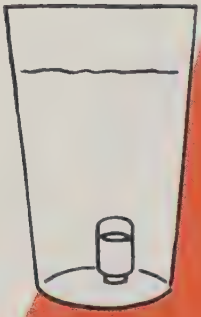
Stand across the room from your friend, while keeping the string tight, and speak quietly into the can. Your chum at the other end with his ear to the can will be able to hear you quite plainly. You can carry on a lively conversation at quite a distance. Remember to keep the string tight between you.

SUBMARINE

YOU WILL NEED:

- A tiny bottle
- A glass of water
- A rubber balloon
- A piece of string

In this fascinating stunt, a glass of water is your ocean and a tiny bottle is your submarine. You will be able to make your submarine rise to the surface or dive into the ocean, without touching it.



1



2



3



4

Fill a small bottle about half full of water. Hold your finger over the mouth of the bottle so that the water won't spill out. Then turn the bottle upside down and place it in the glass of water. The little bottle should float in the glass of water. If it should sink to the bottom of the glass it means that there is too much water in the bottle (*Picture 1*). Take it out and pour out a few drops of water. If the little bottle should stick up out of the water, there is not enough water in it and you must add a few drops of water (*Picture 2*). The bottle must float so that its bottom is exactly even with the surface of the water (*Picture 3*).

Now tie a piece of rubber balloon tightly over the top of the glass. Tie it in place with a piece of string (*Picture 4*). Now your submarine is all set for action.



When you want the submarine to dive, press down on the rubber covering with the palm of your hand, as shown in the main picture. When you want your submarine to rise to the surface, lift your hand. You can make the submarine go up and down by using more or less pressure with your hand. In fact, you can stop your submarine halfway or anywhere you want to, by the proper pressure of your hand.

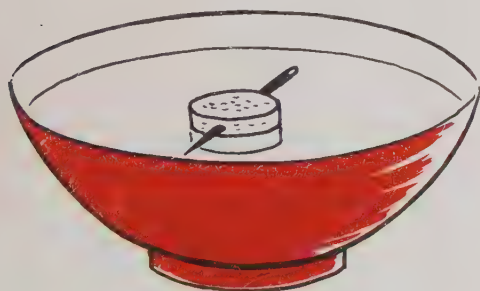
NEEDLE COMPASS

YOU WILL NEED:

- A sewing needle
- A magnet
- A cork
- A bowl of water

Would you like to know which direction is North? You can find out from a compass you can make yourself in just a few minutes.

Take an ordinary sewing needle and rub one end with a magnet. Run the needle right through a piece of cork and lay it in a bowl of water. No matter



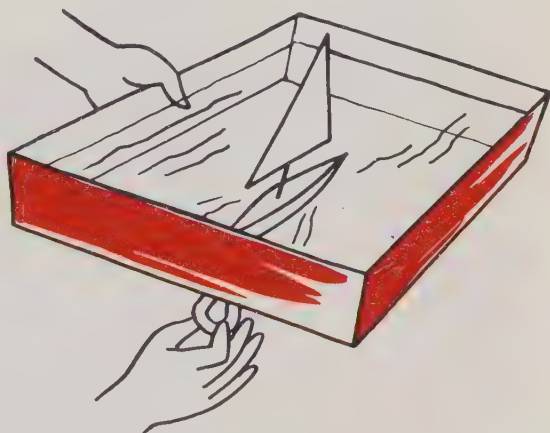
what way you place the needle it will always swing around and point toward North. This simple compass is as accurate as expensive ones used on ocean liners!

MAGNETIC BOAT

YOU WILL NEED:

- Aluminum pan
- Magnet
- Toy boat

Want to see a toy motorless boat move mysteriously across the water? Place it in an aluminum pan of water (use aluminum because it is non-magnetic)



and move a magnet about beneath the pan. Do not fill the pan too full of water because you must keep the bottom of the boat and the magnet as close together as possible. If your boat is made of wood or cork or some other non-magnetic material you can fasten a strip of metal on its bottom to attract it to the magnet.

A Jet-Controlled Boat

YOU WILL NEED:

A drill

A board 1" thick, 12" long and 4" wide, pointed at one end

A piece of copper tubing 20" long, that you can buy at a garage

A glass jar

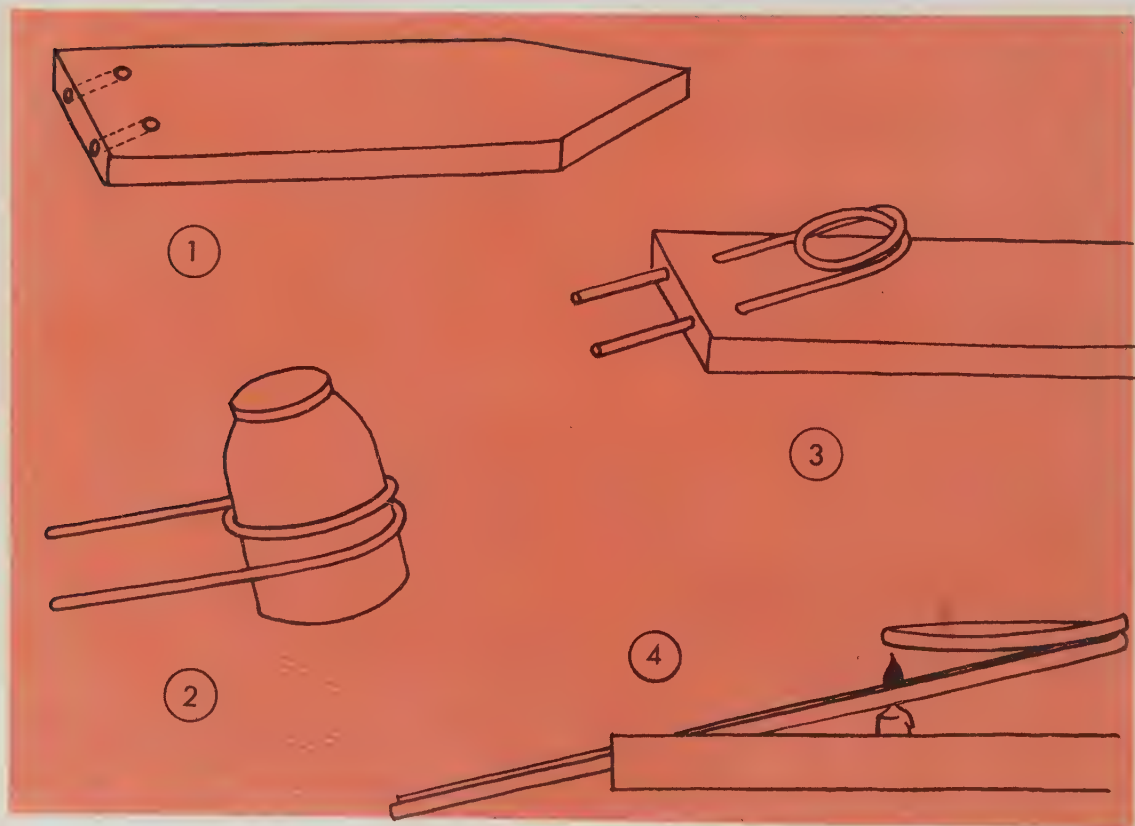
A candle end (or two candle ends)

The board is the hull of your boat. Drill two holes near the square end, slanting the drill so that it comes out through the end of the hull. The holes should be wide enough for the copper tubing to pass through them (*Picture 1*).

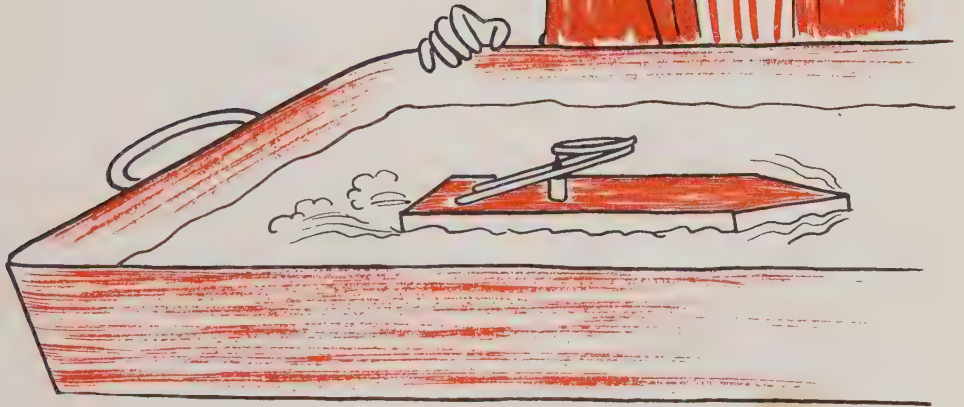
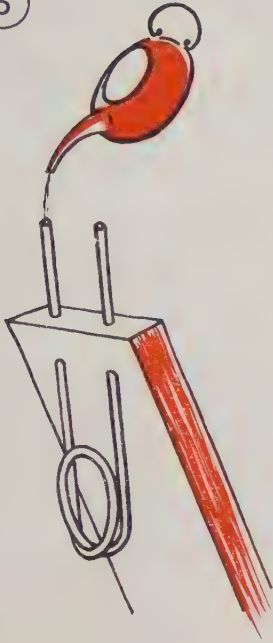
Bend the copper tubing twice around the glass jar (*Picture 2*). Take it off the jar and thrust the two ends of the tubing through the holes you drilled in the boat hull (*Picture 3*).

Place a candle end (or both if you decide to use two) under the lowest part of the coil of copper tubing (*Picture 4*). When the coiled part has been heated, hold the boat upright and fill the tubing with water. Some water will run out when you put the boat down again, but the coil (the engine) will hold enough to run for a few minutes (*Picture 5*).

Float the boat in a tub of water (or



5



6

small pool) and light the candle or candles again to heat the lower part of the coil (*Picture 6*).

Your boat will drive ahead after a

minute or two. Why? Because you have forced hot air out of one end of the tubing, and that hot jet of air propels the boat forward.

Toothpick Craft

YOU WILL NEED:

A box of toothpicks

A handful of raisins

You can have hours of building fun using the toothpicks as your outlines and the soft raisins as the joints. Here are just a few of the things you can make:

Tiny furniture such as chairs, tables, beds, cabinets and desks

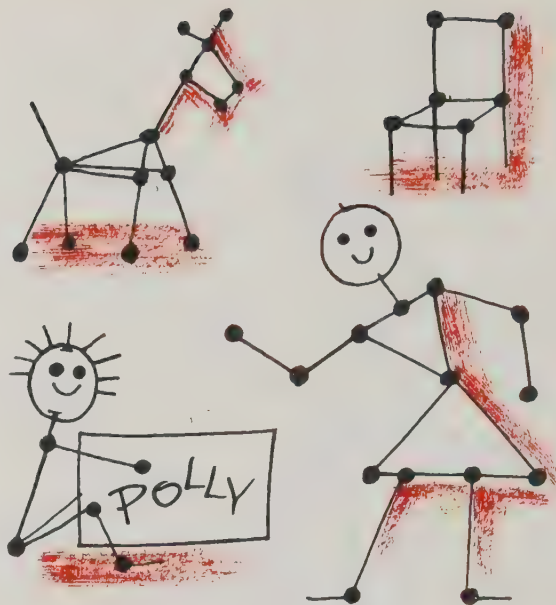
Playhouses, garages, sheds, business buildings

Figures of people, animals, birds

Outdoor items such as trees and flowers

Windmills and pyramids

You can either cover the objects with tissue paper or leave them in bare outline form. If you have a party coming up, why not use these toothpick and raisin figures as place cards?



Jiffy Jigsaws

YOU WILL NEED:

Old magazines

Thin cardboard

Pencil

Scissors

Paste

It is easy to make your own jigsaw puzzles. Cut good pictures from old magazines. Scenes of people or animals or of the outdoors are good. Colored pictures are best. Paste a picture to a piece of thin cardboard. Trim the picture to any size you like. Now, draw straight lines back and forth across the face of the picture so as to mark it into oddly shaped sections.

Cut the picture on the lines, mix the pieces, and you have a jigsaw puzzle ready to give you hours of fun.

Paste your picture on wood if you like and cut out the pieces with a saw.

How to Make Stilts Out of Wood

YOU WILL NEED:

2 lengths of wood a little longer than
your height

2 small blocks of wood for foot-rests

Nails

Nail a foot-rest to each of the stilts,
about twelve inches from the bottom
(*Picture 1*).

To walk on these stilts pass the upper
ends under your arms, and grasp them
at about the middle, and climb onto the
foot-rests. It will be easier if you hold
the stilts with your palms at the back
and your thumbs in front, pointing
downwards. Stand up straight and walk,
taking short steps (*Picture 2*).



How to Make Stilts Out of Tin Cans

YOU WILL NEED:

2 empty cans the same size

Nail and hammer

Heavy string

See that the tops of the cans are cut
off cleanly, leaving no jagged edges.

Use a nail and hammer to punch two
holes in each can, opposite each other,
near the cut end (*Picture 3*).

Tie one end of a piece of heavy string
through one hole. Measure off enough
string to reach up nearly to your hip
and down again to the can. Tie the other
end of the string through the second hole
(*Picture 4*).

You can walk with one foot on each
can, keeping the cans firm by holding
the loops of string in your hands (*Picture*
5).

How to Make Beads

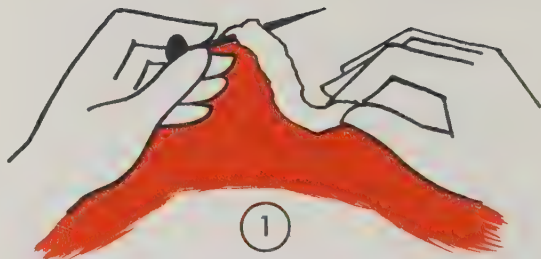
YOU WILL NEED:

- 1 cup of flour
- 4 cups of water
- Strips of newspaper
- A long nail
- Paint of different colors

Make a paste of the flour and water. Stir the water into the flour gradually or the paste will be lumpy.

Cut long thin strips of newspaper. Dip one of these strips into the paste and drain it a little.

Hold a long nail in one hand, and with the other hand roll the wet strip around the nail (*Picture 1*). Roll more strips over the first one if you want a bigger bead.

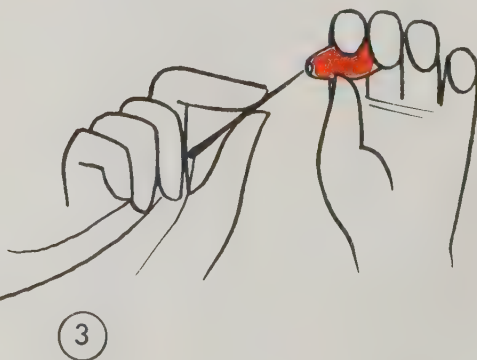
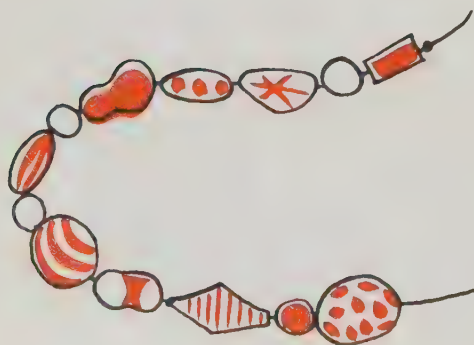
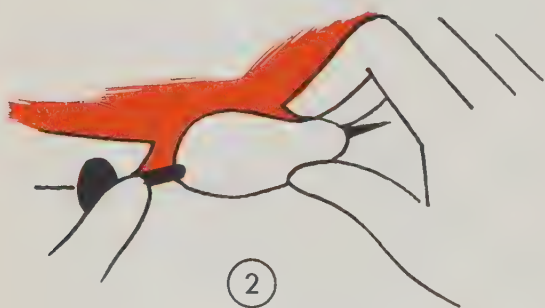


While the bead is wet mold it into the shape you want it to be (*Picture 2*).

Leave it on the nail to dry. It will then come off easily and will have a hole for the string to go through.

Make enough beads for a bracelet or a necklace, then paint them. You can paint them all one color or give each a different color. If you like you can paint designs on them too.

When the paint is dry, string the beads onto strong thread (*Picture 3*).



How to Make an Aeolian Harp

YOU WILL NEED:

A thin pine wood box 4" by 6" deep

4 lengths of catgut a little longer than the length of the box

2 strips of wood a little longer than the width of the box

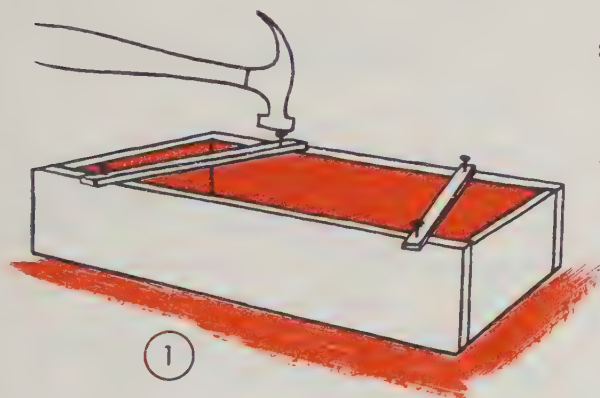
4 small wooden pegs

4 small screws

Nails

Nail the 2 strips of wood across the open top of the box, slanting them a little (*Picture 1*).

Fasten one end of each piece of catgut to one end of the box, using screws.



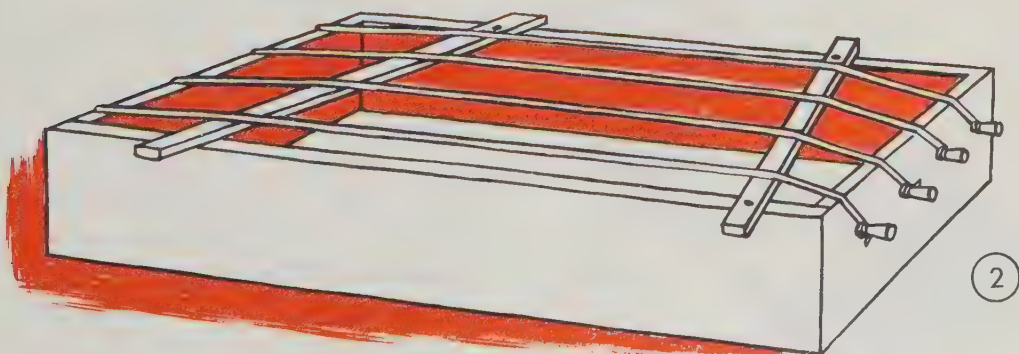
Catch the end of the catgut string between wood and screw just before you give the final twist to the screwdriver. The catgut strings should be equal distances apart.

Bore 4 small holes into the opposite end of the box and thrust a small wooden peg into each hole. The pegs should fit snugly. And the holes should be exactly opposite the screws on the other end of the box.

Draw the 4 strings across the wooden strips and twist the ends around the 4 wooden pegs.

Now when you place your harp in a slight current of air it will play soft tunes by itself (*Picture 2*).

Tighten the pegs or loosen them to change the pitch of the notes played by each string.



A Paddle-Wheel Boat

YOU WILL NEED:

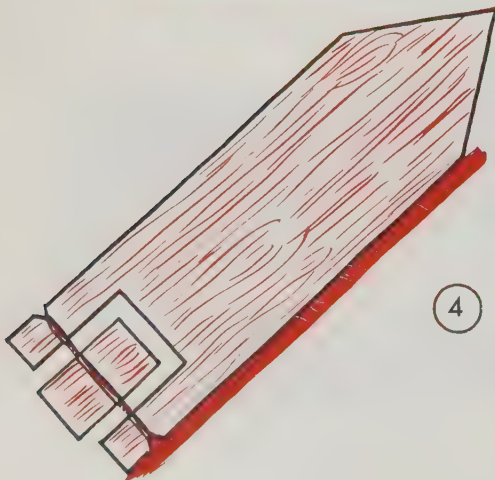
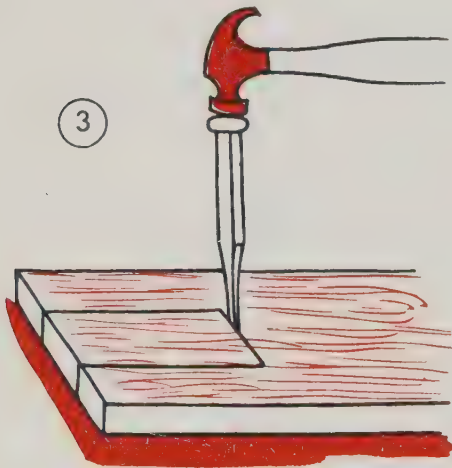
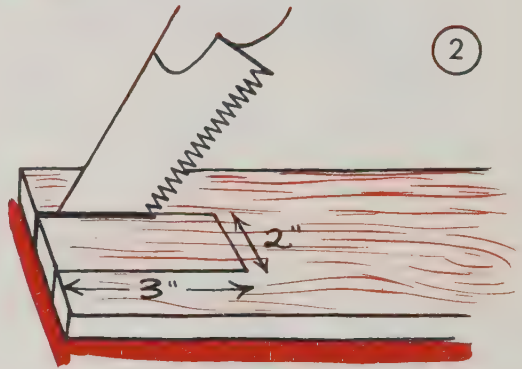
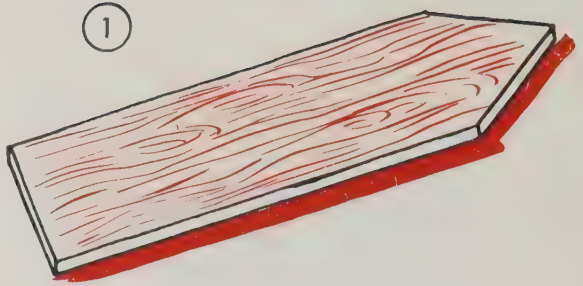
A piece of wood, 12" by 4"

A rubber band

Chisel, saw, hammer, and knife

Saw one end of the piece of wood to make the pointed front of the boat (*Picture 1*).

Cut a piece 2" by 3" out of the middle of the back (*Picture 2*). Use a saw to make the two 3" cuts, and a chisel and hammer to cut across the 2" end (*Picture 3*).



Save this piece of wood you have cut out, and use it as a paddle-wheel. Make it a little shorter so that it will have room to swing around in the space you have provided for it.

Make notches about an inch from the end of the back, both sides. These are for the rubber band to fit into.

Crank the paddle-wheel. You do this by putting the paddle-wheel between the two arms of the rubber band, then winding the paddle-wheel around and around it, clock-wise (*Picture 4*).

Put the boat in a pond or a pan of water, and it will go on paddling until the rubber band has unwound itself. Then you crank again and the boat paddles again, as often as you want it to.

Horn of Plenty

YOU WILL NEED:

A piece of cardboard 22" by 26"

A piece of cardboard 5½" by 2¾"

Scotch tape

Crepe paper, one roll of green and one roll of purple

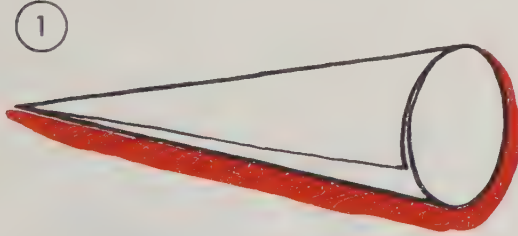
Purple ribbon, about 2½ yards

Yellow tissue paper

Gold paint

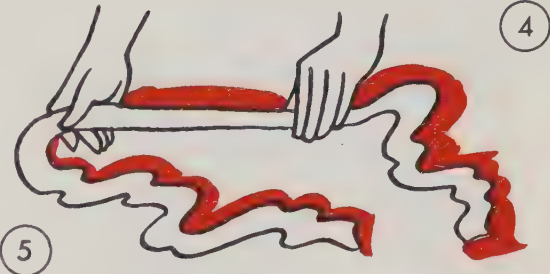
Paint the large piece of cardboard gold and let it dry.

Roll the cardboard into a cone 16" long (*Picture 1*). Fasten the seam with scotch tape. Cut out the mouth along the dotted lines (*Picture 2*).



Cut the small cardboard to make it pointed at one end (*Picture 3*).

Bend the pointed end and fasten this bent section to the seamed under-side of the cone. This makes a stand for the cone (*Picture 4*).



Cut your two crepe paper rolls in half. Open them up. Stretch them (*Picture 5*). Weave the two different-colored rolls together and paste them around the mouth of your Horn of Plenty.

Tie a bow of purple ribbon around the horn at the place where you fixed the cardboard stand.

Stuff yellow tissue paper inside the horn. Have nuts, fruit, and candy wrapped in brightly-colored paper spill out of the horn onto the tablecloth (*Picture 6*).



Dolls, Dolls' Furniture, Dolls' Houses

Dolls

If you like to have many different kinds of dolls make some yourself, and dress them yourself. Here are some easy ones. Try making a house for your dolls too, and furniture for all the rooms.

CORN-COB DOLL

YOU WILL NEED:

- Dried corn-cobs
- Corn husks and corn silk
- White cloth to make a doll's head
- Crayons or water-color paint
- Hairpins
- Needle and thread

The thick end of the corn-cob will be the doll's head. Just tie a piece of white cloth around it, knotting it behind (*Picture 1*).

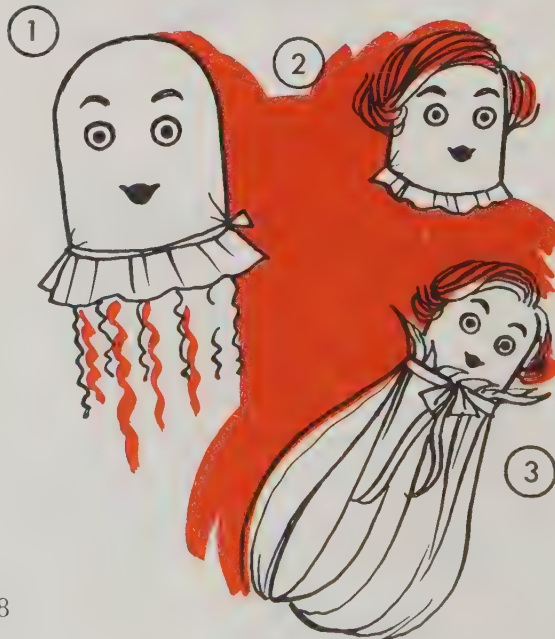
Make the eyes, blue or brown, and a round rosy mouth, with either crayons or paint. Then make a head of hair out of the corn-silk. If your doll has brown eyes, use the brown silk; if she has blue eyes, use the soft yellow strands. You can either braid or twist the hair, then fasten one end of the braid or twist to the left side of the doll's head, using hairpins. Wrap the hair around the head, and pin again (*Picture 2*).

To dress the doll, use the husks you have saved. Choose husks that are all

about the same size and sew them together in seams. Bring the narrow ends together to make the neck of the dress. Tie a narrow strip of husk around the neck, or, if you want some other color, blue or pink ribbon will look pretty. A sash of the same color might be a good idea (*Picture 3*).

If you don't want to sew the husks you can let the dress just flare out as it wants to, all the way down, covering the doll's feet.

If you like making doll's clothes out of corn-husks, you can go on and make a flared petticoat, and tie it around the doll's waist under the dress.



SOCK DOLL

YOU WILL NEED:

- A man's wool sock
- Some old nylon stockings
- 2 brown or blue buttons for eyes
- Knitting wool for hair
- Needle and thread

Make a doll out of one of your Father's old wool socks. Stuff the sock with nylon stockings that your Mother is ready to throw away.

Mark in chalk on the sock where the neck is to be—at the beginning of the toe curve (*Picture 1*).

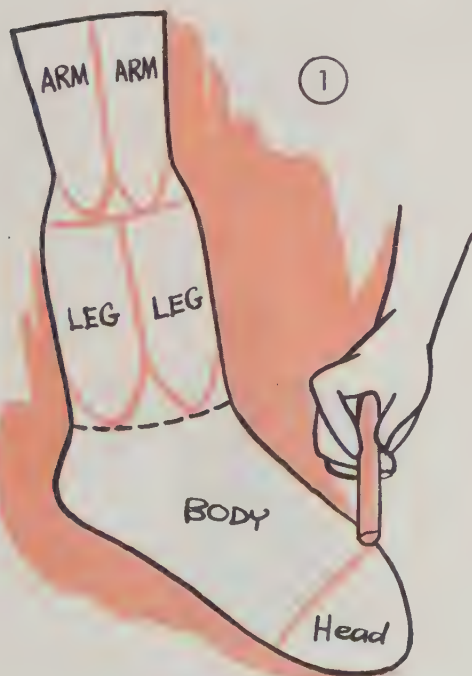
Cut along the curved dotted lines. This section will be the doll's body.

Cut the two legs out of the straight part of the sock to just above the cuff.

Cut two arms out of the cuff.

Shape feet and hands.

Stuff the head with stockings as far as



the chalk line, then tie with yarn. Stuff the body. Turn up the round edge at the bottom and sew. Sew the leg and arm seams inside out, then turn them right side out. Sew legs and arms onto the body (*Picture 2*).

Paint or crayon a face on the doll. You can sew on brown or blue buttons for the eyes.

Knitting wool makes good hair. Lay strands of the wool close together on a sheet of thin paper, stitch across the middle, and tear the paper away. Sew the hair to the doll's head (*Picture 3*).

(See page 131 for how to make dolls' clothes.)

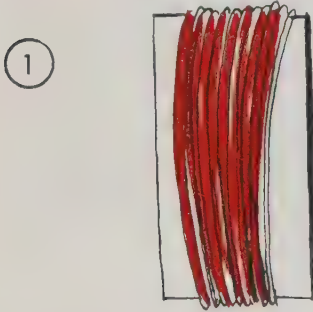
LAPEL DOLL

YOU WILL NEED:

Crayons	Scrap of cloth
Scissors	Ribbon
Ruler	Thread
Paste	Needle
Pencil	Cardboard
Wool yarn	

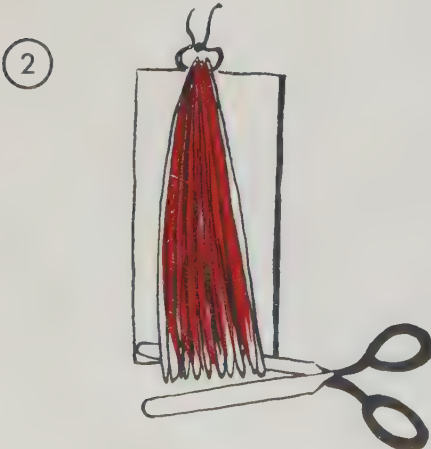
Here is another easy wool doll to make with wool yarn.

Rule a piece of cardboard to 3" long and 2" wide, and cut the cardboard to



this size. Wind your wool around it about thirty times (*Picture 1*).

Then slip a piece of wool under the strands which are wound at one end of the cardboard and tie the wool together securely (*Picture 2*).



Cut the loops of wool at the other end of the cardboard with your scissors.

Now, using a small piece of wool, tie off a little part of the top to form the head.

Tie off two small clusters of wool to form the arms, about half as long as the body. Then cut off the extra wool. You do not form legs.

To give the effect of a dress, wind some wool around the waist (*Picture 3*).



You can trace and copy the doll's little face right onto a piece of paper or thin cardboard (*Picture 4*). Color her face pink, her mouth red, and her downcast eyes blue. Now paste the face onto the wool head.

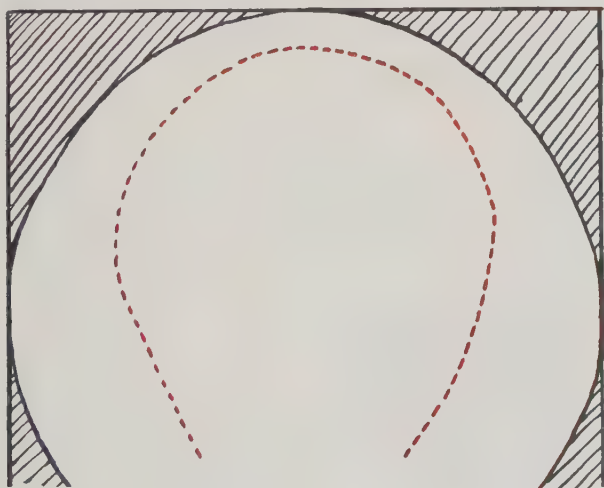
Picture 5 shows the pattern for her bonnet. Trace this onto a piece of paper, and then cut it out.

Now lay the pattern on a piece of material, and cut the material to shape.

With your needle and thread, make simple running stitches about $\frac{1}{2}$ " in from the edge of the material (*Picture 5*). Then gather the material so that it forms a ruffle. Now put on the bonnet with the ruffle framing the doll's face. Tie the bonnet on with a piece of narrow ribbon over the bonnet and around the neck.

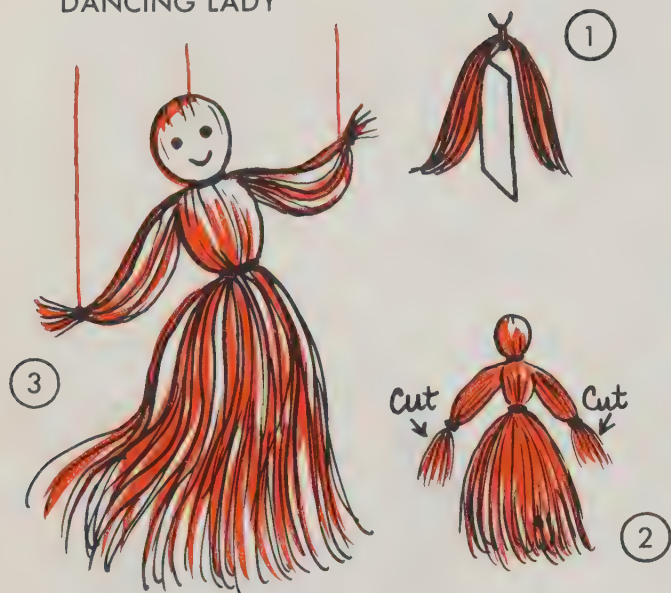
If you want to wear the doll as an ornament on your coat lapel you must attach a safety-pin to her back. Leave the pin part of the safety-pin free and sew the other part to her back. In this way you will be able to open and close the safety-pin and you'll be able to pin the doll on any of your clothes.

④



⑤

DANCING LADY



YOU WILL NEED:

A card $4\frac{1}{2}$ " long
A hank of fine yarn
Needle and black and red thread
String

Wrap fine yarn forty times around the card. Wrap fewer times if yarn is thick. Tie all the yarn together at one end of card and cut the yarn at the other end. Remove the card (*Picture 1*).

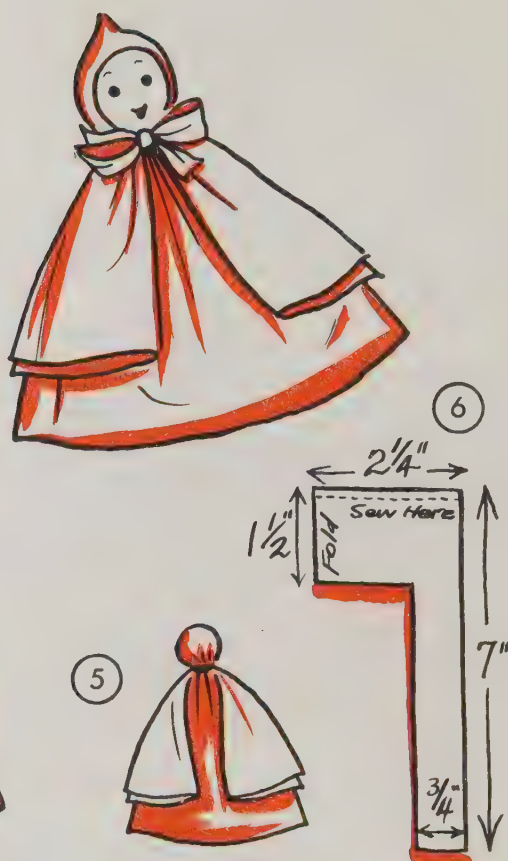
Tie at neck, waist, and wrists (*Picture 2*).

Cut arms to proper length.

Add a few stitches for eyes and mouth.

Tie an 18" string to top of head and to each wrist.

Make the doll dance by pulling the strings (*Picture 3*).



CIRCLE BABY

YOU WILL NEED:

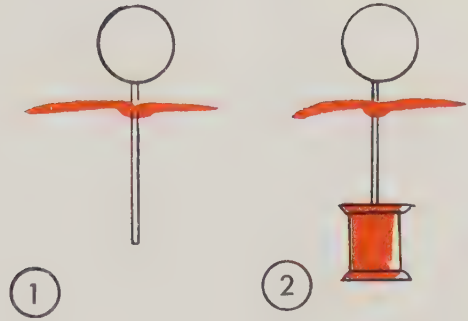
$\frac{1}{2}$ yard of cotton cloth
Small ball of cotton
Crayons
Scissors
Needle and thread

Use an 18" cloth circle. Make a head by tying a cotton ball in the center (*Picture 4*).

Fold circle down (*Picture 5*).

Draw a face and make a cap according to pattern (*Picture 6*).

LOLLIPOP LADY



directly under the lollipop head (*Picture 1*). This forms the arms.

Now stuff the hole of an empty thread-spool with a tiny bit of absorbent cotton so that when you push the lollipop stick into it, it will stand nice and firm (*Picture 2*).

Make a little cone of paper. *Picture 3* shows the pattern for the paper cone,

YOU WILL NEED:

- A lollipop
- Empty thread-spool
- Bit of absorbent cotton
- Paper
- Pencil
- Scissors
- Paste
- Crayon
- Crepe paper

Dress up a lollipop to transform it into a *Lollipop Lady*.

Cut a strip of colored crepe paper about 6" long and 1" wide. Knot it



which you can trace or copy. The colored area is to be cut away. Roll this cone around the lollipop stick, covering the thread spool. Clip it in position with a paper clip (*Picture 4*).

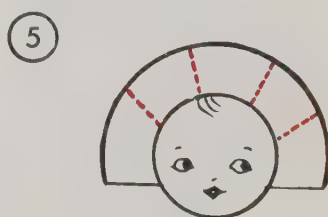
Picture 5 shows a little face which you can copy or trace on to a little piece of paper. You can make a perfect circle for the face by running your pencil around one end of a spool or around a nickel. The colored dotted lines show where you cut with your scissors. Paste this little face on the head of the lollipop. Bend the border forward—the part on which

you cut slits. The bent border will give the effect of a bonnet.

Picture 6 shows the pattern for the coat-dress. This is made out of crepe paper. Double over the crepe paper. Draw the pattern on it. You cut away the areas shown in color. Slit the dress down the front. Now slip the dress on the doll, arranging it so that it laps over a bit in front. Tie a bit of narrow ribbon (or thread) around the waist and make a bow in back. A little dab of paste will hold the sides of the skirt together.



4



5



6

RAG DOLL

YOU WILL NEED:

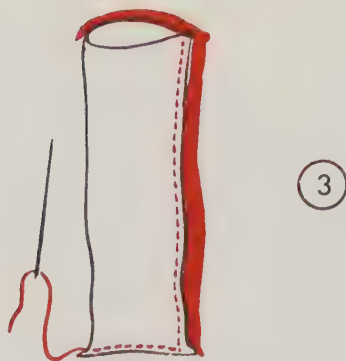
Two old white stockings
Rags or cotton
2 buttons
Wool
Red crayon
Strong thread
Needle
Scissors

Stuff the toe of a stocking tightly with cotton or rags. Then tie off this stuffed part by winding strong thread around it about six times. This makes the head.

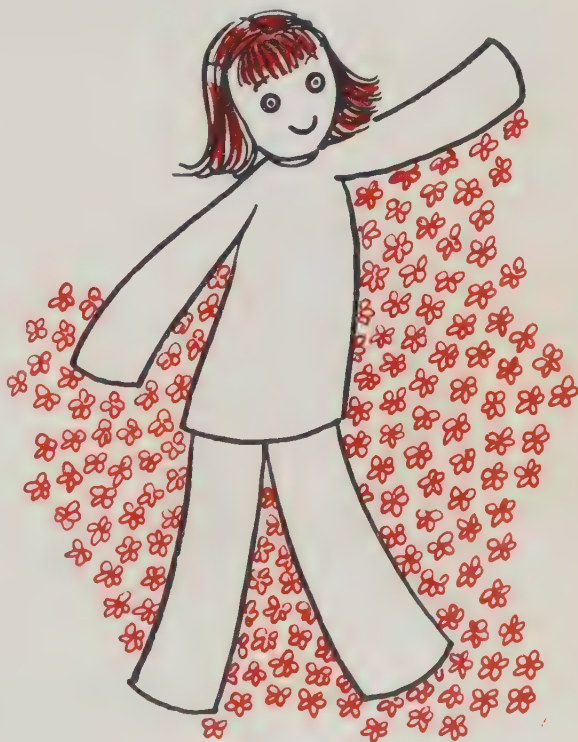


Picture 1 shows the thread in color.

To form the body of the doll, continue stuffing the stocking until it is filled down to the heel. Sew the stocking closed at the base of the trunk. Then cut off the rest of the stocking (Picture 2).



To make an arm, cut out an oblong piece of material about 5" long by 2½" wide. Double this over. Sew a seam down the long side and across *one* short side (Picture 3). Then turn it inside out. Stuff it, and sew the open end closed.



Make the other arm and two legs the same way, but make the legs a little longer than the arms. Sew the arms and legs onto the body where they belong.

The hair is made by laying a section of wool on top of the head. It should extend down over the face a bit and hang down the back of the neck. Sew the wool to the top of the head across the front. The colored broken line in *Picture 4* shows where to sew. Cut the hair which is hanging down over the face into bangs.

Now place another length of wool *crosswise* on the head. Sew this, too, to the top of the head, right in the middle (*Picture 5*). However, it's a good idea to sew this wool down again on the left side and once again on the right side, to hold the hair more securely in place. Now it will be easy to arrange the doll's hair in different ways—in two braids, or cut short with bangs.



5



To make the doll's face, sew on two buttons for eyes. Draw the mouth in with red crayon, and draw black eye-brows. Don't bother with a nose; your doll will look very cute without one.

Dolls' Houses

CARDBOARD BOX DOLLS' HOUSE

YOU WILL NEED:

2 corrugated cardboard boxes, both the same size, and at least 10" by 10" by 12"

Gummed paper or scotch tape

A single-edged razor blade or sharp knife

Pencil

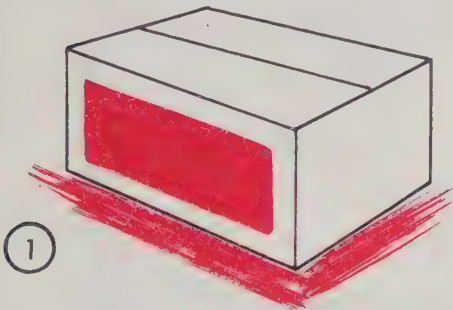
Ruler

4 paper clips

Crayons or paints

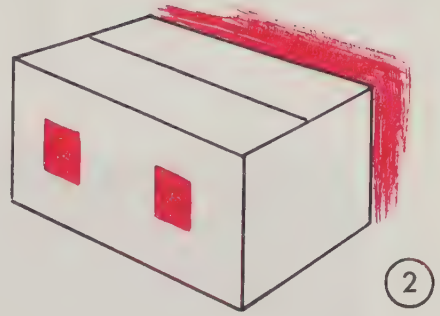
This two-story doll's house is very easy to make. It takes shape quickly and yet it is so sturdy that you will be playing with it for months. You will have great fun furnishing the rooms with the simple but real-looking furniture.

Seal one carton closed on all sides



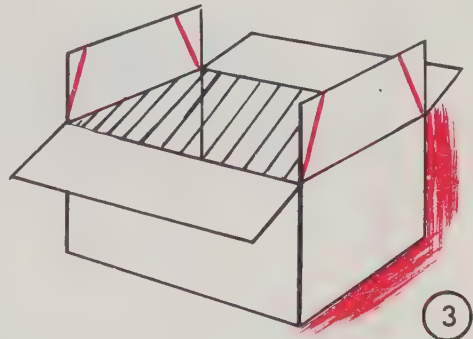
with scotch tape or whatever kind of sealing tape you have. Turn the box so that the largest sides form the ceiling and floor.

On one of the larger of the four walls, draw a box about $\frac{1}{2}$ " in from the edges, with your pencil and ruler. This box is



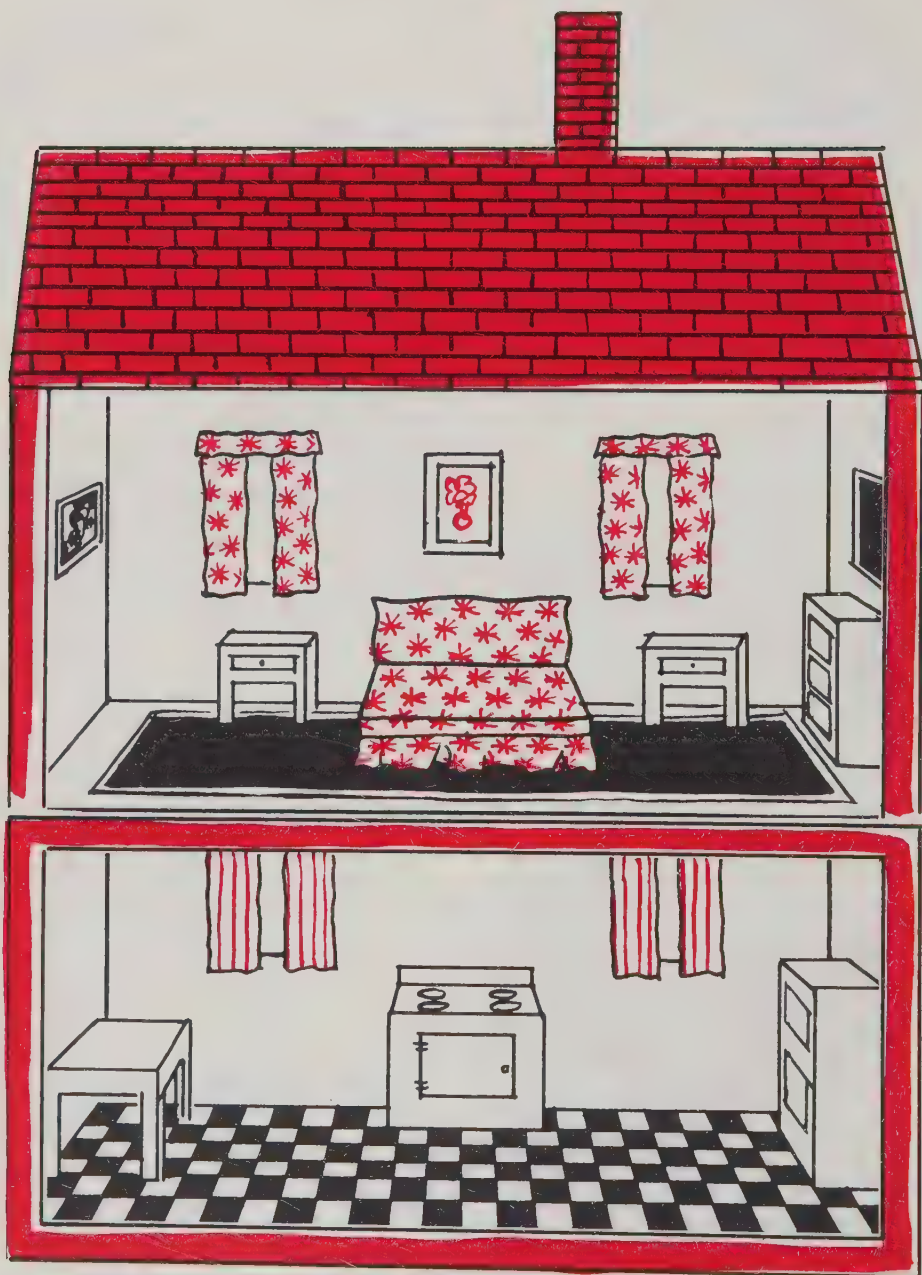
shown in color in *Picture 1*. With your razor blade, cut out this portion and save it for further use.

You will now be able to reach into the inside of the box. Cut away the two *small* flaps, but not the two large flaps, which are on the floor of the box. Leave the ceiling flaps as they are, but lay a few

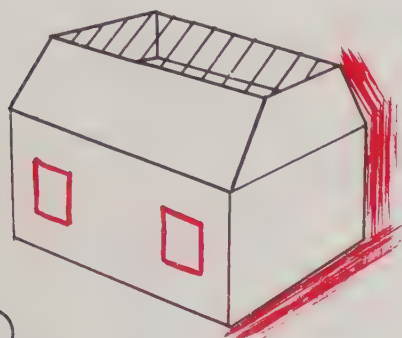


strips of gummed paper across the ceiling to keep the flaps from falling down.

Now draw two small squares on the back wall—the wall opposite the cut-out side—for windows. Cut these out. The colored squares in *Picture 2* show where you cut the windows. The ground floor of your house is now completed. Put it aside for the time being.



Here's how you make the second story: Seal only one side of the second box. The sealed side will be the floor of the second story. The open side will form



4

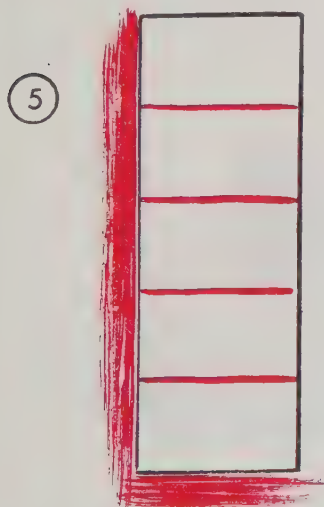
the roof. In order to make a slanting roof, draw two lines on each of the small flaps, as shown by the colored lines in *Picture 3*. Cut along these lines. Now stand the four flaps up and make them meet. The two long flaps will slant in and meet the slanted edges of the two smaller flaps (*Picture 4*). Seal the four flaps together with gummed tape. The top of the roof will still be open.

Now take this box and cut the front wall and the windows in exactly the same way as you did with the first box. The windows of this second story should be placed directly above the windows of the first story.

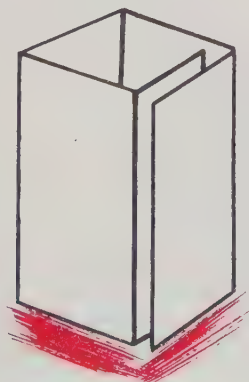
Before you close the opening in the roof, make the chimney out of one of the cut-out pieces of cardboard that you have saved. Cut it to about 5" by 8". Then, with ruler and pencil, divide it into four equal parts, as shown by the colored lines in *Picture 5*. Run your razor lightly along these lines. Do not cut through the cardboard. Now you will be able to bend the cardboard neatly along these lines. *Picture 6* shows the folded chimney.

Now take the other piece of cardboard you have saved from one of the cut-out walls. Cut it to exactly the same size as the opening in the roof.

Then cut a hole in it for the chimney, as you see in *Picture 7*. Be careful not to cut this hole too large. It's better if it's a bit smaller than the chimney, for if it



6



7



fits tightly the chimney will stand up-right properly.

Picture 8 shows the top of the roof and the chimney in place. Seal this roof-top in place with gummed paper.

Picture 8 also illustrates how you place one carton on top of the other with the windows of each story directly above each other. You attach the two stories together by pushing paper clips through the floor and ceiling.

A HATBOX HOUSE

YOU WILL NEED:

A round cardboard hatbox

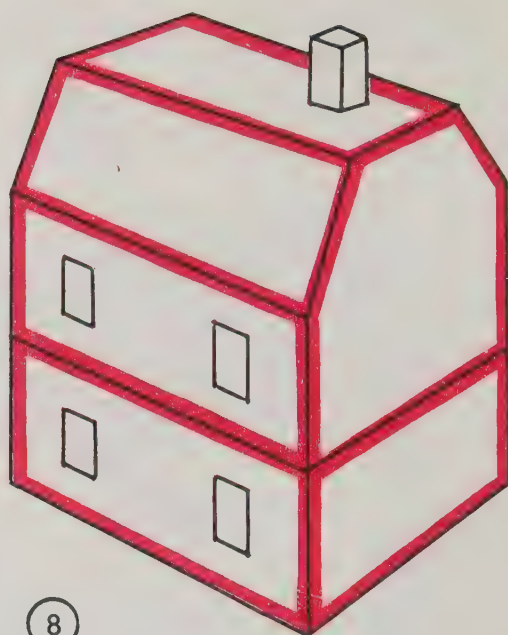
A strip of cardboard

Crayons

Scissors or razor blade

Cut a door and four windows in a round cardboard hatbox, two windows upstairs and two downstairs. Make cuts only for the top and bottom of the door and windows, and make another cut down the middle. Then open up into a double front door and four window shutters (*Picture 1*).

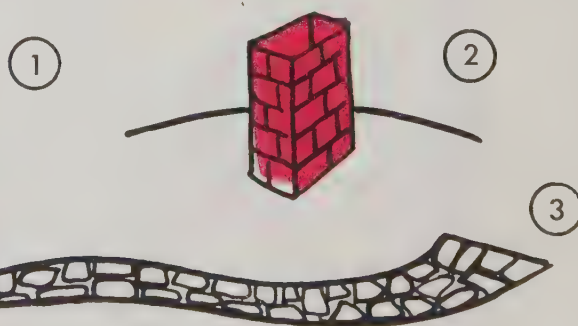
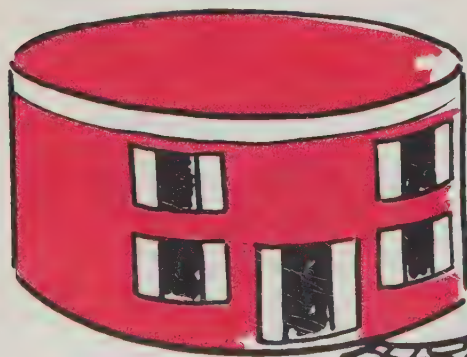
Fold colored paper to make a chim-



ney, and glue it on the lid of the hatbox (the roof). (*See page 59 for how to make a chimney.*) Draw lines with a crayon outlining the shapes of bricks (*Picture 2*).

A strip of cardboard laid in front of the door will make a pathway. Outline paving-stones in black crayon (*Picture 3*).

If you want to, you can take the lid off your hatbox house and put in some dolls' furniture. (*See page 61 for how to make dolls' furniture.*)



Dolls' Furniture

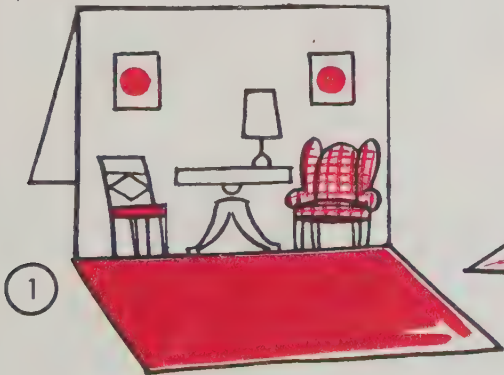
BACKGROUNDS FOR ROOMS

Have you ever noticed how strange your toy furniture looks when you play with it on a table near large things like lamps, books, and telephones? Well, if you have, here is something to try.

Group a few of your small pieces together and hold a piece of stiff paper behind them. They look much better, don't they? This is because the paper forms a background which blocks from view the large things on the table.

These backgrounds look wonderful when you make a drawing or paste-up picture on them so that they look like the walls of a real room. On these pages are suggestions for three ways to make backgrounds.

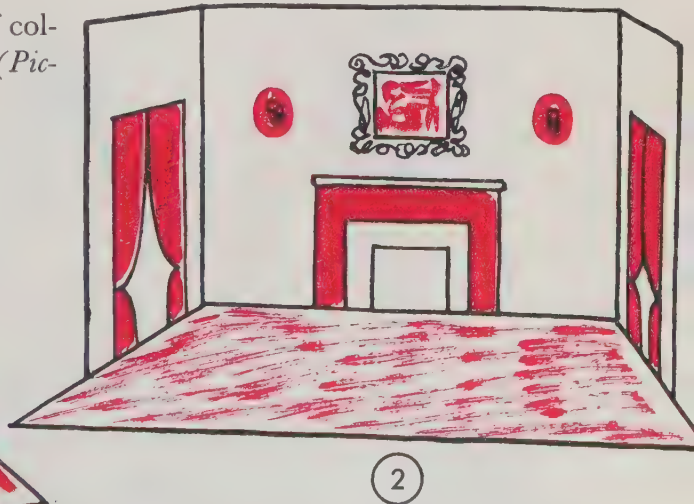
ONE-WALL BACKGROUND—Use a double piece of paper that is large enough to form a background for your furniture. Paint a background on one side and stand this paper up. Use a piece of colored paper for a rug as in sketch (*Picture 1*).

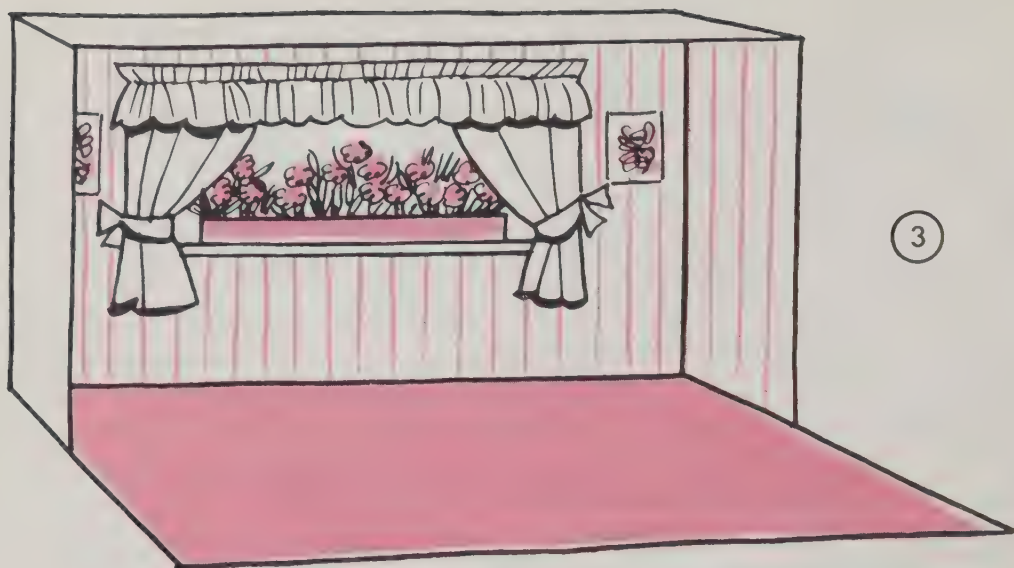


THREE-WALL BACKGROUND—Cut and fold a cardboard so that it has three sides and will stand alone. Make the background on all three sides. Use paper or fabric for the rug (*Picture 2*).

WINDOW BACKGROUND—Another nice way to make a background is to use a box lid. Choose one that is deep enough to stand alone. Make a paste-up picture on the inside of the lid. The background shows a window with plants on the sill. The curtains are made of tissue paper and the two pictures on the wall are pasted on. Make any background you like. Use a colored paper or fabric for the rug. Run it up to the walls. (*Picture 3*).

The nice part about using a box lid is that when you have finished playing you can put your furniture in the box





and cover it. Everything will keep clean and be ready the next time you want to play.

LIVING ROOM

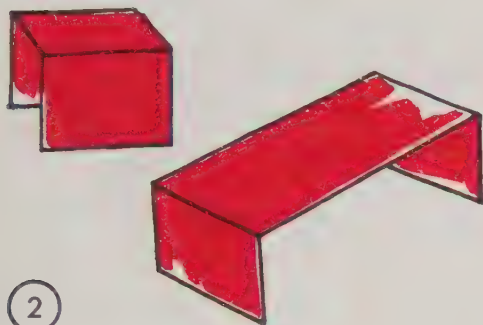
The background for this room is made from a piece of gray cardboard cut 23"

by 10". Fold 4" sections forward, one on each end, to form the side walls of your room. Use the shallow lid of a small box for a mantel and fireplace. Cut two pieces of white paper and paste them in position for windows. Cut paper cur-



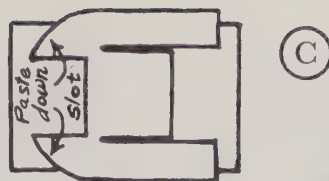
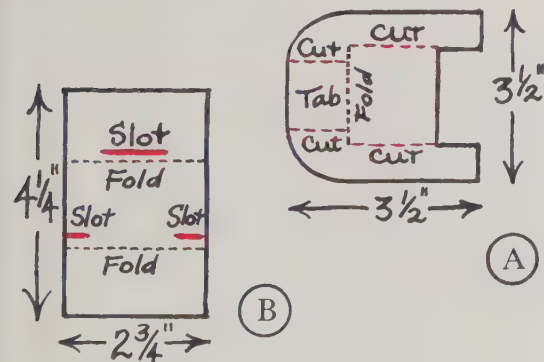
tains and paste them on. The flower vases, portrait, and fire were cut from magazine advertisements. The rug is a piece of gray paper with a white fur hearthrug painted on it (*Picture 1*).

TWO TABLES—To make a small side table, use a piece of construction paper 5" by 1 3/4". Fold 1 1/8" down on each end to form the legs. A larger table can be

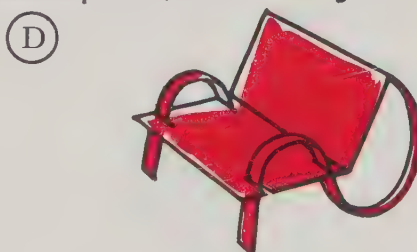
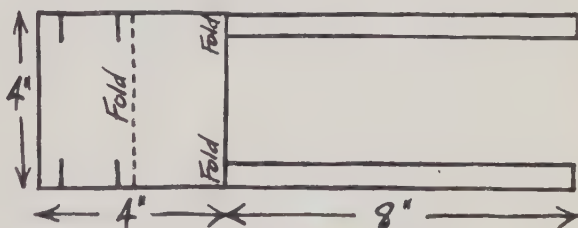


made by starting with a paper which measures 8" by 3". Fold 2 1/2" down on each side to form legs (*Picture 2*).

CHAIR—Cut one piece of colored paper as in *Diagram A*, and another one as in *Diagram B*. Slip the tab through the slot as in *Diagram C*. Now fold back and front of seat down and slip arms through slots (*Picture 3*).

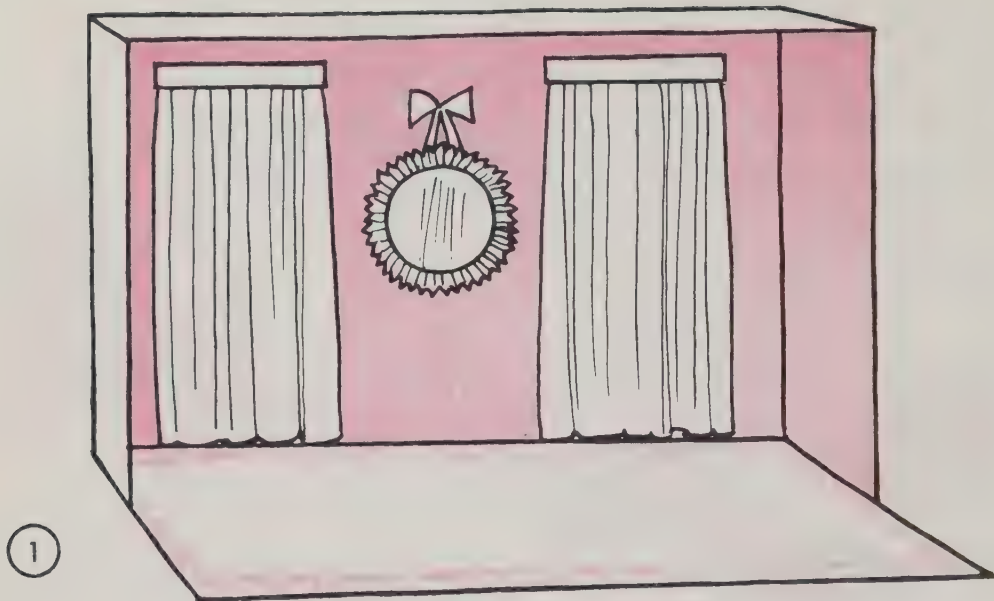


SOFA—Cut your paper as shown in *Diagram D*. Fold and slip long ends through slots as in *Picture 4*.



BEDROOM

Make the background for this room in a box lid. Line it with colored paper. Use strips of paper to hold the pleated tissue-paper curtains in place. Make a wall mirror by pasting a circle of silver paper in the bottom of a pleated paper



baking cup and cut the cup down to leave a $\frac{3}{4}$ " edge. Paste this mirror on the wall between the windows. Use colored paper for the rug (*Picture 1*).

CHAIR—Use one baking cup for the chair seat. Cut the chair back from a second cup (*Picture 2*). Attach these two pieces

(*Picture 3*). Decorate the chair with a paper bow.

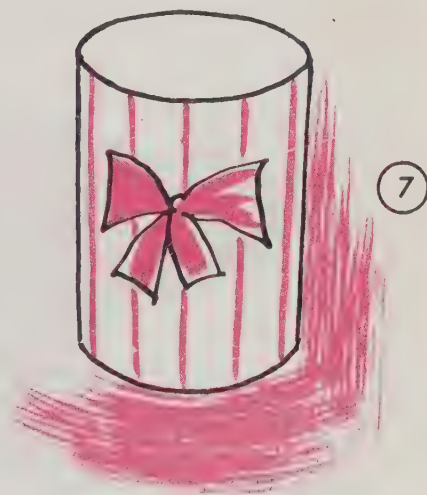
DRESSING TABLE—Make this from three baking cups. Put one on top of the other and hold in place with pins. Decorate with a paper bow (*Picture 4*).



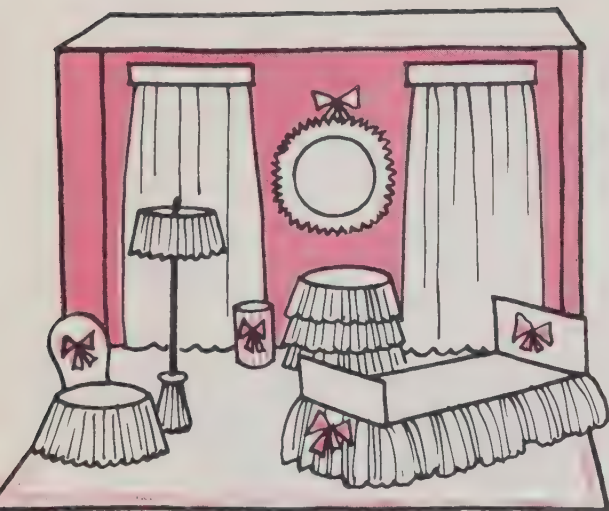
BED—Make a bed of heavy paper. (See page 69 for how to make a bed.) Cut the sides from two baking cups and use them for a flounce around the bed. Decorate the head and footboard with colored paper bows (Picture 5).



WASTE BASKET—Cut a strip of paper 4" long and 1½" wide and paste it together to form a ring, 1½" high. Decorate with a paper bow (Picture 7).



LAMP—Push a pencil or a lollipop stick into a ball of modeling clay. Cover the clay with a piece of paper from the side of a baking cup. Use a cup for the shade and a bead hung by a string for the light pull (Picture 6).



*This is how
the bedroom can look
when finished*

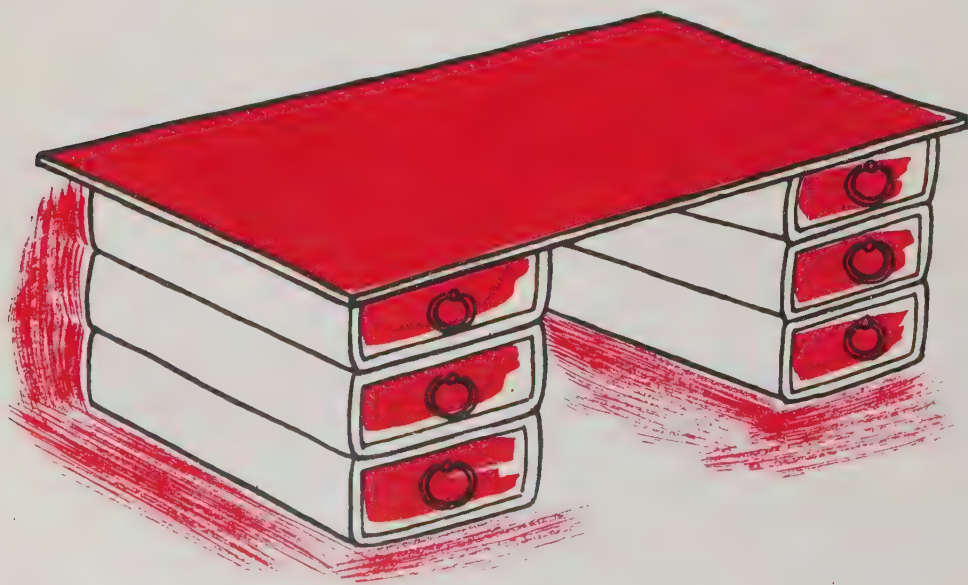
MATCH-BOX FURNITURE

Empty safety match-boxes make good drawers for desks and filing-cabinets.

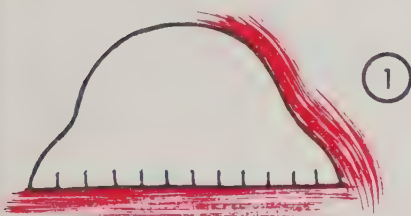
DESK—Paste three empty match-boxes together for each set of drawers. Make the desk top from a piece of cardboard which measures 6" by 2 $\frac{3}{4}$ ". Glue this to the drawers. Paint it your favorite color. Slip a ring picture hanger through each drawer for a pull. The drawers will really open, so that you can leave messages in them for your friends.

CHAIR—Make the chair from a spool painted to match the desk. The back is a piece of paper cut as in *Picture 1*. Glue the back to the chair (*Picture 2*). The seat is a paper circle cut the size of the spool top and pasted on after the back has been attached.

FILING CABINET—Use five empty match-boxes pasted one on top of another and painted to match desk. When quite dry, paste a small slip of white paper on each drawer and use two-legged fasteners.

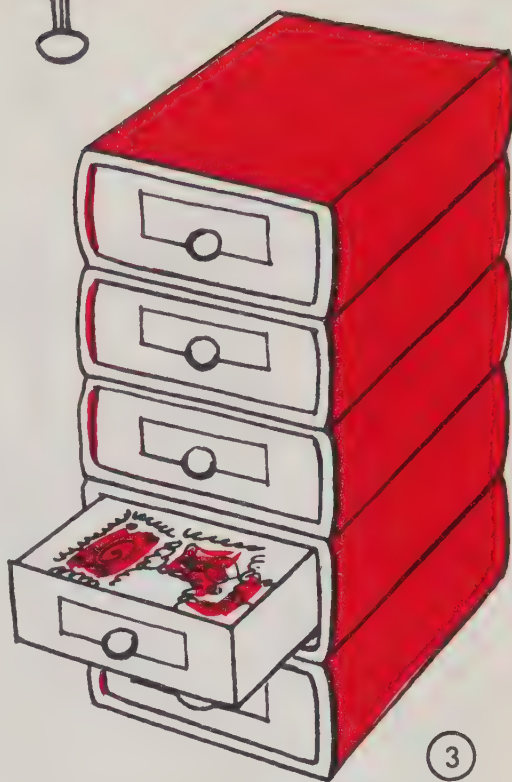
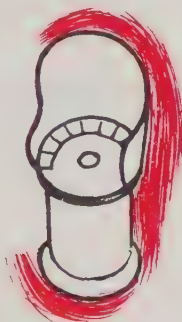


like the one shown in small sketch, for drawer pulls. These fasteners can be bought at five-and-ten-cent stores. These cabinet drawers will really open but it is safer to push them open from behind than to pull them open by the handles. Some children use this filing cabinet for storing stamps which they are waiting to paste into their collector's albums. Other children make them for grown-ups to use on a desk (*Picture 3*).



1

2



3

DOUBLE-DECKER DOLLS' BED

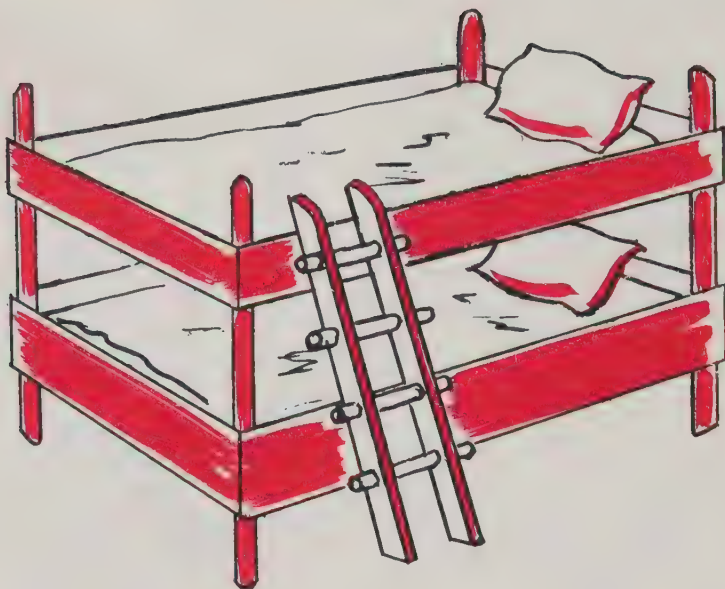
YOU WILL NEED:

- A box and its lid
- 4 round sticks or twigs
- A small piece of cardboard
- 4 lollipop sticks
- Scissors or single-edged razor blade

You can make a double-decker bed for your dolls in a few minutes.

Get a cardboard box which is as long as your doll. Be sure that the box has a lid. You will not want the sides of the box to be higher than 2" at the most; so if they are higher, cut them down to 2". *Picture 1* shows the two parts of the box.

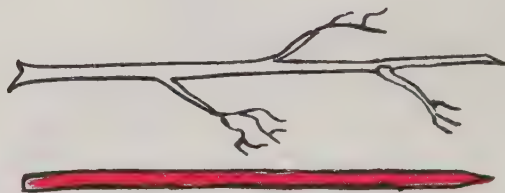
For the bedposts, use 4 round smooth sticks. If you don't have smooth sticks,



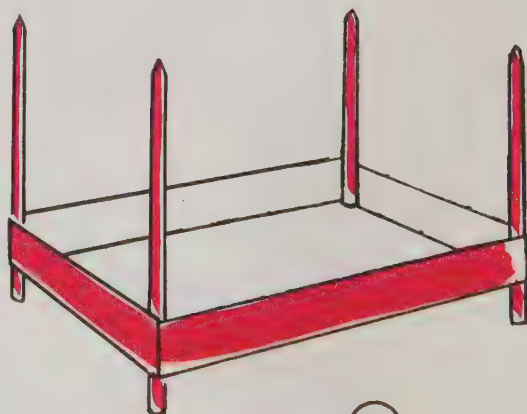
trim some twigs as in *Picture 2*. Whittle the ends of the twigs and push the pointed ends through the corners of the bottom of your box. *Picture 3* shows how to place the sticks in position.

Now turn the lid of the box upside down. Push it down on the four bed-posts to form the top deck of your bed.

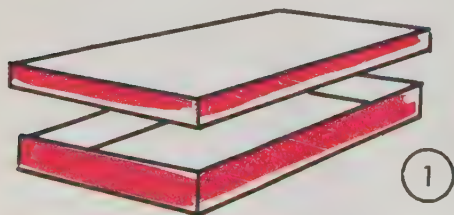
It's easy to make the little ladder shown in the main picture. First, cut two strips of cardboard for the sides. Then, break some lollipop sticks into short lengths. Sharpen their ends, then force them through the cardboard strips to form the rungs of the ladder.



(2)



(3)



(1)

A DOLL'S BED MADE OF PAPER

YOU WILL NEED:

A piece of heavy paper $6\frac{1}{2}$ " by $4\frac{1}{2}$ "

Scissors, ruler, pencil, paste

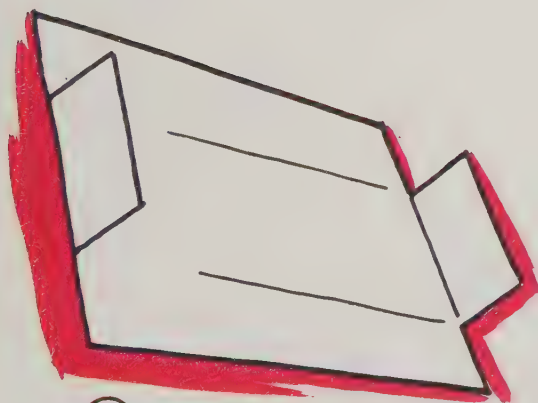
Cut away 4 squares, measuring $1\frac{1}{4}$ " each way, from the 4 corners of the paper (*Picture 1*).

Fold up $1\frac{1}{4}$ " at a right angle at one end of the paper for a headboard. Fold up $1\frac{1}{4}$ " at the other end for a footboard (*Picture 2*). You can cut another $\frac{1}{4}$ " from the top of the footboard if you like, to make it lower than the headboard.

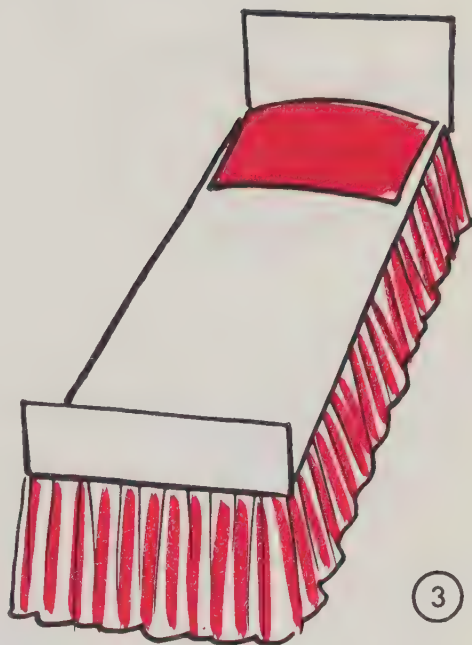
Fold down at right angles the two sides of the paper for the bed to stand on (*Picture 3*).



1



2



3

Color the headboard and footboard with crayon or water-color paint. Paste a paper ruffle around the bed.

PLAYING HOUSE

YOU WILL NEED:

A corrugated-paper carton

Pencil

Ruler

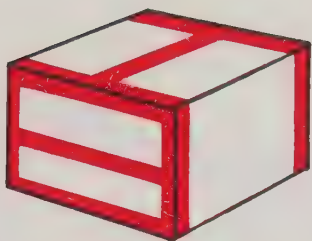
Crayons or paints

A single-edged razor blade

Sealing tape such as gummed paper, scotch tape, or heavy adhesive tape

Paper fasteners

When you play house, it's fun to have your own little stove, your own little ice-box—all the things that a real grownup



①

person has. You will find it very easy to make this real-looking stove with one of those heavy cardboard boxes that the grocer brings the groceries in.

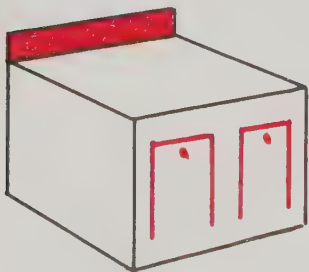
Seal the box closed on all sides with gummed paper (*Picture 1*). Then turn the box around so that the largest sides form the top and bottom.

Now look at *Picture 2*. With your ruler and pencil, draw a long line and two short lines on the back wall of the box.

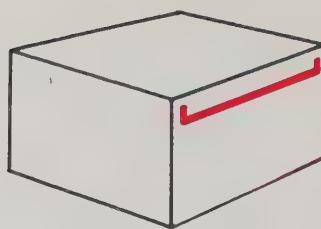
With your razor blade, cut along the three heavy colored lines. Then bend up the cut-out part so that it will stand across the back of the stove (*Picture 3*).

With your pencil and ruler, draw two oven doors on the front of the box.

Cut out the doors on only three sides,



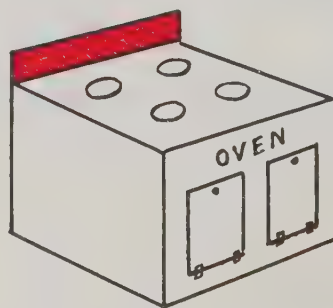
③



②

as shown by the colored lines in *Picture 3*.

Use paper fasteners for handles. You will be able to keep the oven doors closed if you turn the spread ends of the paper fasteners. Draw hinges on the closed sides of the doors. The colored broken lines in *Picture 4* show where you bend the oven doors when you open and close them.



④

For gas or electric burners, draw four circles on the top of the box.

DOLL'S FURNITURE MADE OF CANDY-BOXES AND CLOTHESPINs

YOU WILL NEED:

- An empty 1-lb. candy-box
- An empty ½-lb. candy-box
- Clothespins
- Scissors

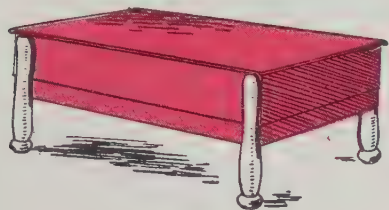
An empty one-pound candy-box can

make a table-top or a bed. For a table use four old-fashioned wooden clothespins for legs, sticking one in at each corner of the candy-box. They will go in more easily if you cut short slits in the corners of the box first. Stick the clothespins in so that the round ends rest on the floor (*Picture 1*).

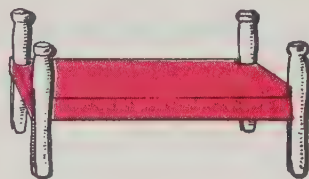
For a bed, stick the four clothespins

only half way through the corners of the box, so that the top halves with their round knobs make four posts and the split ends make feet for the bed to stand on (*Picture 2*).

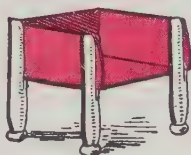
Make chairs out of half-pound candy-boxes cut in two across the middle. Stick clothespins in the four corners the same way as for the table (*Picture 3*).



1



2



3





Gifts to Make



Your friends and family will like receiving gifts from you that you have made yourself. It shows them you think enough of them to want to give them something special, even if it means taking a little time and thinking out. Here are some gifts for birthdays, Christmas, and other occasions, all easy to make.

For Christmas

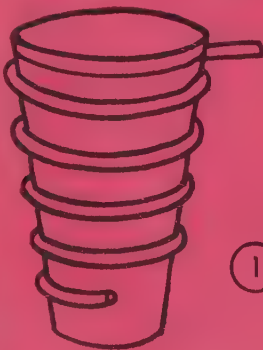
CHRISTMAS CANDLE-HOLDERS

All you need to make a pair of these candle-holders is some flexible copper tubing. You can get it at your hardware store.

Coil the copper tubing several times around a glass jelly jar (*Picture 1*). Be careful to leave a short straight end so that the holder will stand up squarely. Slip the coils off the jar, but do not cut the tubing.

Then make a coil once around a small bottle of the same diameter as the candle you are going to use. Slip this coil off the bottle and cut the tubing with a wirecutter. This coil is for the candle to fit into (*Picture 2*).

You can make two of these small coils if you want your holder to take two candles (*Picture 3*).



1



2



3

(" means inches)

TOY CHRISTMAS TREE

This little Christmas tree is pretty enough to offer one of your friends as a gift. Or, if you are planning to give some other present, you can hang it on the tree.

You make the tree out of chicken wire shaped into a cone. The cut ends of the wire can be used to fasten the cone together (*Picture 1*).

Then you stick holly and evergreens through the spaces in the wire, using enough of these to cover all traces of the wire underneath.

Cut a star out of cardboard and paste silver over it (*Picture 2*). Fasten the star to the top of the tree.

Decorate the tree with Christmas snow or silver rain or icicles.



If you want to hang a gift to the tree choose something light in weight. For a girl a pretty handkerchief rolled up and tied with red or green ribbon would be nice, or a lapel pin, or a piece of costume jewelry. For a boy it can be a top wrapped in gold or silver paper, or a bag of marbles (*Picture 3*).

You can use screen wire, if you prefer, to make a cone-shaped Christmas tree. Instead of decorating it with holly and evergreens, though, wind thin copper wire around the tree, starting at the bottom. Leave a little space between the copper wire and the tree, and hang tiny ornaments on the wire all the way to the top. If you cannot find ornaments that are small enough, colored paper or cardboard cut-outs will do. Shellac the cut-outs on both sides to make them shine. Decorate them with sequins and they will make the whole tree glitter. (*See page 87 for how to decorate with sequins.*)





CHRISTMAS BOTTLES, JARS, AND BOXES

Some weeks before Christmas, begin looking around for bottles of an unusual shape, and jars and boxes. You can make them into pretty Christmas gifts.

All you do is paste colored pictures on them, pictures of Santa Claus, or reindeer, or holly berries, or a snowy landscape. You will find many such pic-

tures in magazines as Christmas-time comes around.

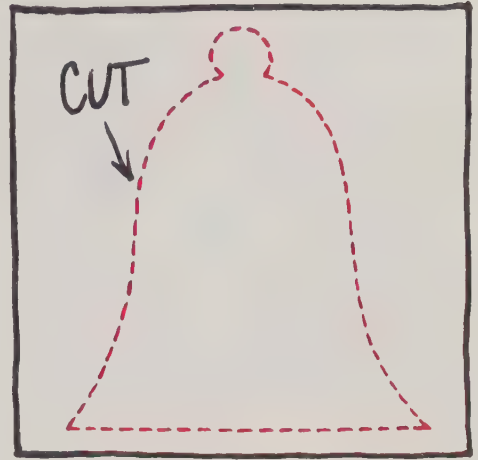
If you have bottles without stoppers, cover a cork (smaller than the stopper would be) with cotton, and decorate the cotton with Christmas tree snow, or with silver sequins. (*See page 87 for how to decorate with sequins.*)



CHRISTMAS BELL SACHET

Draw a bell on cardboard. (*Picture 1*). Cut it out. Use this as a pattern and cut out two bells of stiff silk in bright red or green.

If you have a pair of pinking scissors you can make an edging that will not fray. If you cut out with ordinary scissors, turn in the edges of the silk all around, and sew, using a running stitch. Leave a small opening at the top. (*See page 316 for instructions on Sewing.*)



Sprinkle some sachet powder on a piece of cotton, and put this inside the bell. Sew up the opening.

To the top of the bell, sew a bow, green for a red bell and red for a green bell.

You can make sachets any other shape you like—heart-shaped for a Valentine gift, pumpkin-shaped for Halloween, stocking-shaped for Christmas (*Picture 2*).



For Birthdays and Other Occasions

A FLOWER COMB

Fasten the stems of a cluster of artificial flowers to the back of a comb, using thread the same color as the comb. Wrap the thread around and around the comb and stems until the flowers feel quite firmly fixed.

You can tie flowers onto a bobby pin too, or to a safety pin, to make a lapel ornament.



LAPEL VASE

YOU WILL NEED:

- An eye-dropper or small vial
- ½ yard narrow ribbon
- A candle or wax crayon
- Paste
- Scissors
- A pin

Remove the rubber bulb from an eye-dropper. Scrape the pointed end against a candle or wax crayon. This will plug up the tiny opening. If you are using a small vial, you won't have to do this.

Spread paste along the dull side of the ribbon. Then, starting at the bottom,



wind the ribbon around the glass, up to the top.

Fill the tube half way up with water. Seal the top of the tube with a plug of wax from the candle so that the water will not spill. Be sure your wax stopper is thin enough so that you can push a pin through it to make a hole when you want to put your flower in the vase. Now tie a pretty bow around the top of the tube. You can pin the vase on your lapel by pushing a pin through the ribbon.

SWEET SPICE SACHET

YOU WILL NEED:

- A small apple
- Dried cloves
- Ribbon

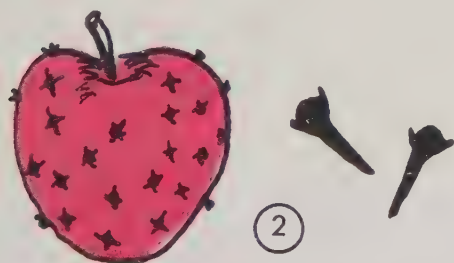
If you want your closet to have a

lovely fragrance, hang this clove-apple in it.

Choose a small, sound apple (*Picture 1*). Ask Mother for some dried cloves



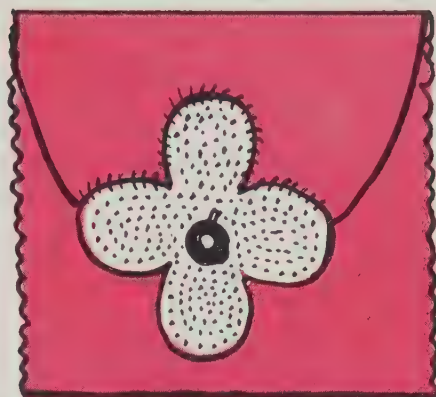
from her spice cabinet. Stick the pointed ends of the cloves into the apple. Cover the entire surface of the apple in this way (*Picture 2*).



Now tie a ribbon around the apple. Make a double knot, and leave a few inches of ribbon for a bow. Hang your clove-apple sachet on a hook (*Picture 3*).



FELT PURSE

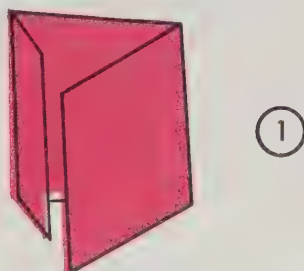


YOU WILL NEED:

- Piece of felt or leather
- Scissors
- Needle
- Embroidery thread
- Button
- Paste

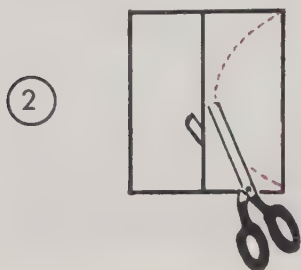
Cut a piece of felt 8" long by 4" wide. If you don't have a flat piece that size, you can cut a piece of felt from an old hat and wash it in cool water. Then lay wrapping-paper under and over it, and press it flat with an iron.

Now fold the felt so that the front and back of the purse are 3" deep and the flap 2" deep. (*Picture 1*).

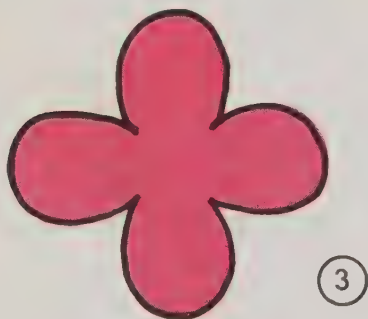


Then cut the flap into a round shape, as shown by the dotted line (*Picture 2*).

Sew up the two sides of the purse with brightly colored embroidery thread. Use an overcast stitch.



Picture 3 shows a pattern of a flower. Trace it from this page on to a piece of thin paper. Then cut out the paper. Take a piece of felt of a color different



from the color of the purse, and pin the paper flower-pattern on it. Then cut out the felt into the shape of the flower-pattern.

Cut a buttonhole in the flap and a matching buttonhole in the middle of the flower. Paste the flower on the flap. Then sew the top half of the flower down on the flap, making sure that the button-

hole on the flower is directly over the buttonhole on the flap.

Now, stick your pencil through the buttonhole and make a tiny mark on the purse. In this way, you will find the exact spot where you are to sew on the button.

Now you have a gay little purse to keep your money in.

KNITTING HOLDER

YOU WILL NEED:

A cylindrical box like an oatmeal box

A nail or pointed tool

A few yards of colored cord or narrow ribbon

Paints or wallpaper, or colored paper, or crayon

Paste

Scissors

This yarn holder or knitting box is very easy to make. Even if you don't



know how to knit or crochet, you will want to make it as a gift for someone who does.

The first thing you do is decorate the box. There are many ways to do this. You can paint the box a pretty color, and then paste on it an attractive picture cut out of an old magazine; or you can cover the box with some pretty wallpaper that Mother may have left over; or you can simply run candy stripes over the box with crayons. Remember to decorate the lid too (*Picture 1*).

After you have finished decorating, make a hole in the center of the cover with a nail or the point of a scissors. Then make two holes on each side of the box itself, near the top. These last two holes are for the handle (*Picture 2*).

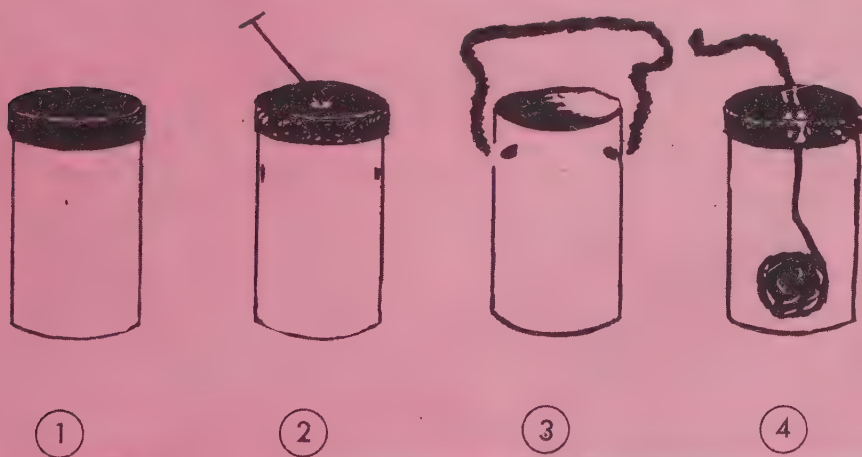
To make the handle, cut the cord or

ribbon into three pieces, each about 18" long. Knot the pieces together at one end, and weave them into a braid. (*See page 347 for how to braid.*)

Now, starting from the inside of the box, push the braid through one of the side holes to the outside of the box. The knot, of course, will be on the inside of the box.

Then run your braid through the other hole, starting from the outside through to the inside. Now make a knot at the other end of the braid and your handle is attached (*Picture 3*).

Place a ball of yarn in the box. The end of the ball of yarn can be pulled through the little hole in the top of the lid. With the lid kept on, the yarn will not fall out and will remain nice and clean (*Picture 4*).



POT-HOLDERS

YOU WILL NEED:

Cardboard 5" x 5"

2 pieces of colored felt

1 piece of flannel 5" x 5"

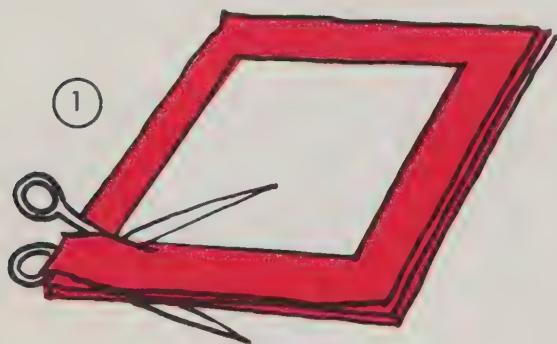
Bright colored yarn

Colored pot-holders will brighten up the kitchen. They will make useful gifts for your Mother or your friends.

To be sure of getting your pieces of material all the same size lay your card-

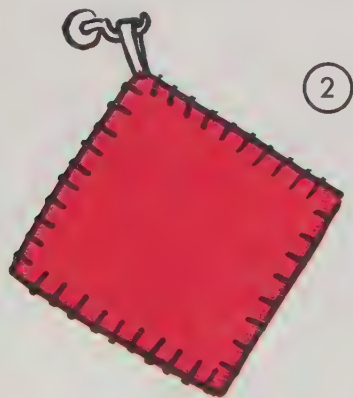
yarn, using a blanket stitch. (See page 319 for how to do "Blanket Stitch".)

On one corner sew on, firmly, a doubled piece of sturdy tape to hang the pot-holder up by (Picture 2).



board pattern (5" by 5") on the felt and flannel and cut out (Picture 1).

Put the flannel piece in between the two felt pieces, and sew together all around the edges with bright colored



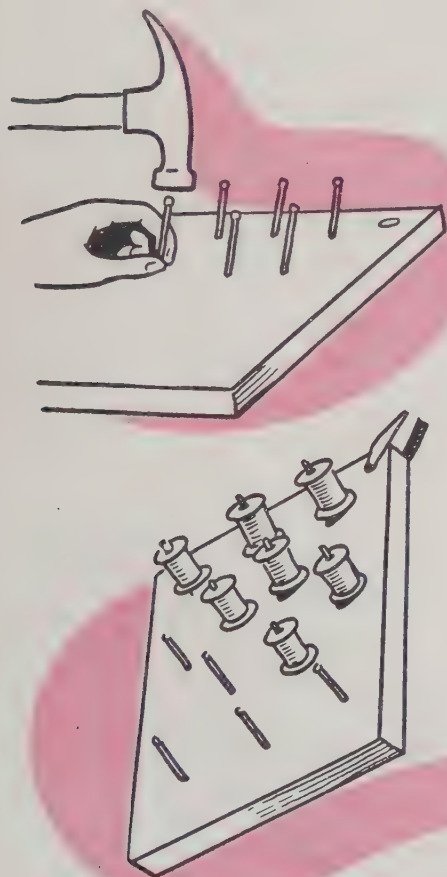
SPOOL HOLDER

YOU WILL NEED:

A board 1 ft. square
12 headless nails

Here's something you can make for Mother's or Grandmother's birthday gift. It is a spool holder that can be made in a short time.

Smooth the piece of wood with sandpaper. You can choose your own shape, making it round, triangular, or any other attractive design. You can either leave it plain or paint it.



Drive twelve headless nails into the wood in an even pattern. Be sure to drive them at a slightly upward slant, so that when the spools are placed on the nails they will not slip off.

Bore a small hole in the top of the board so that it may be hung on the wall.

SWEET PEA CORSAGE

YOU WILL NEED:

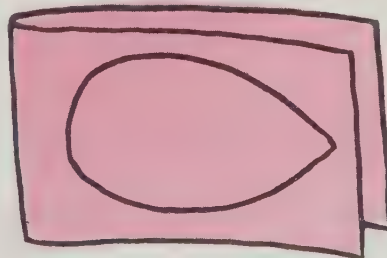
Crepe paper
Picture wire
Scissors
Paper-lace doily

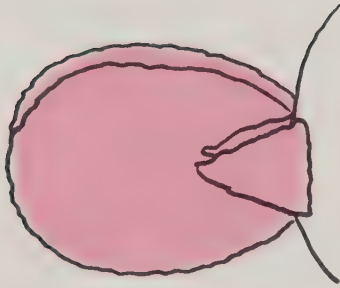
These sweet peas look so real that people will have to look twice to discover that they are made of paper. They are easy to make.

Get some crepe paper. Pink, coral, lavender and white are sweet pea colors; so try to use these shades.

To make one flower, double over a small piece of crepe paper and cut out (*Picture 1*). These paper petals should be 2½" long, with the grain of the paper lengthwise.

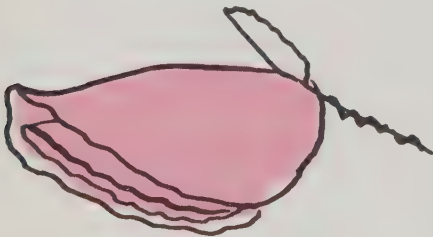
Unravel some picture wire into thin, single strands. Cut these strands into 8" lengths. Place the wire about one-third





2

up from the pointed end of the paper petal, and fold the paper up over it (*Picture 2*). Then twist the wire tightly so that it draws the petals together (*Picture 3*). The rest of this twisted wire then becomes the stem of your flower. Two small tails of crepe paper will be stick-



3

ing out behind the large petals (*Picture 3*). Turn the large petals over, so that the small ends which were sticking out will now be *under* the large petals, as if under a hood (*Picture 4*).



4

To give your flowers a more natural look, flute the crepe paper just the tiniest bit, very close to the edge of the petals (*See page 151 for how to flute edges of petals.*)

After you make a cluster of these lovely-looking sweet peas, cover the wire with green crepe paper or ribbon. Then tie a bow on to your bouquet. If you push the stems of this bouquet through the center of a round paper-lace doily, you will have a corsage.

If you use different colors and construct your flowers with care, this corsage will really be pretty enough to wear on your party dress.



Make-Believe Jewelry

Make-believe jewelry is both fun to make and to wear, especially for plays or for costume parties. Make some for yourself and your friends. Make small pieces for your dolls. Keep your eyes open for things around the house which you can use in making this jolly kind of jewelry. You will be surprised at how many things you will find—candle ends, bottle caps, and silver paper are only a few.

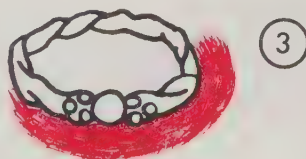
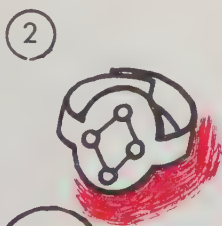
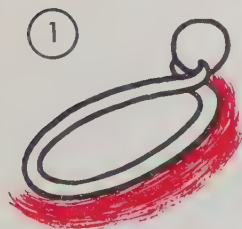
PENDANT

Melt a few candle stumps slowly in a pan. Remove the pieces of wick. While the wax is still quite hot, run a green crayon through it until some of the color comes off in streaks. When the wax is cool enough to handle, mold a pendant from some of it. Make a small hole in the top and run a narrow ribbon through the hole. This wax looks very much like jade. Try making small figures and animals with it.



RINGS

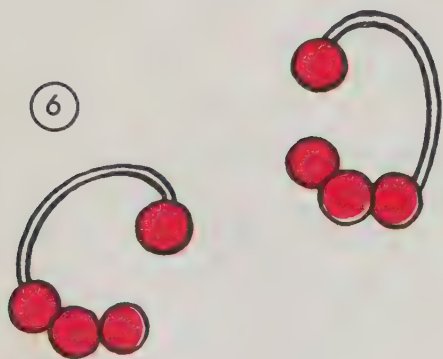
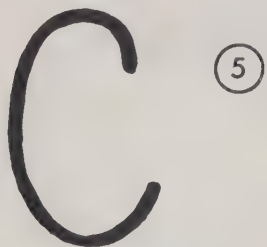
Twist a piece of wire so that it will fit your finger (*Picture 1*). Push a cranberry on the end of the wire for a jewel.



Cut a ring from white or silver paper (*Picture 2*). Draw a design on it and paste it together to fit your finger.

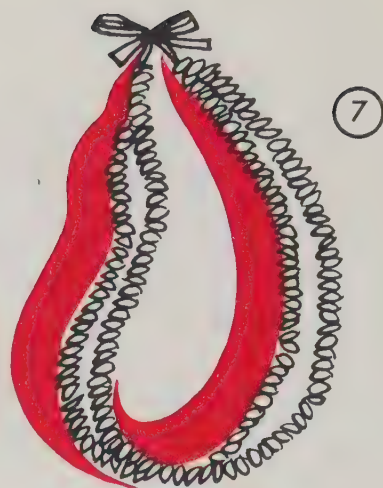
Twist a piece of silver paper into a ring. Make stones from bits of melted colored crayon (*Picture 3*).

Make a ring of soft wax. Twist it to fit your finger. Put colored beads on it before it gets hard (*Picture 4*).



EARRINGS

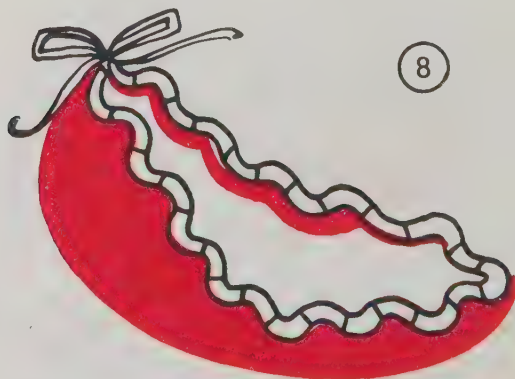
Bend two pieces of wire to fit from the top of your ear at the front around the back and under the bottom of your ear. (*Picture 5*). Now make eight wax balls and slip them onto the wire while they are still soft (*Picture 6*).



NECKLACES

String puffed rice on a thread. When it is about 36" long, fasten the threads together and cut. Fasten two pieces of ribbon at the ends of the doubled necklace to make ties (*Picture 7*). Tie it around your neck.

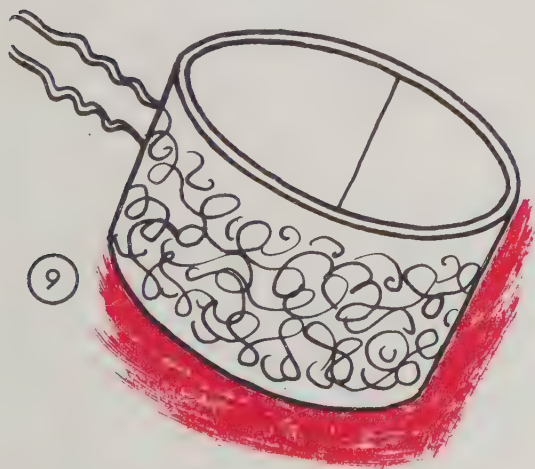
Make another necklace, using elbow macaroni, tied with narrow ribbon (*Picture 8*). Color it if you like. You will need a wire bead needle to get the thread through these curved pieces.





BRACELET

Cut a band from a round box which will fit over your hand. Cover it with silver paper, gluing it on very carefully. Before the glue is thoroughly dry, scratch large initials on it, or a design. Use a hairpin for scratching, but be very careful not to tear the silver paper while making your decorations (*Picture 9*). Use silver paper for covering other pieces of jewelry and small boxes for various uses.

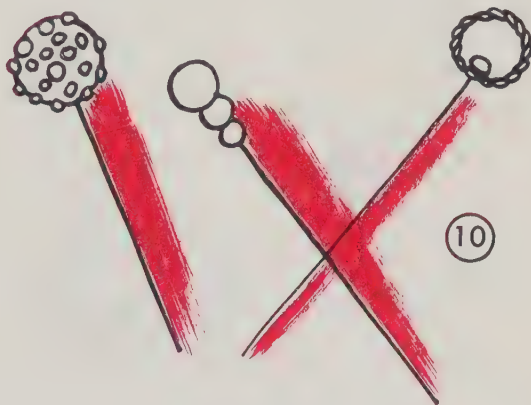


FANCY PINS

Cover the head of a small hatpin with warm wax and press beads onto the wax.

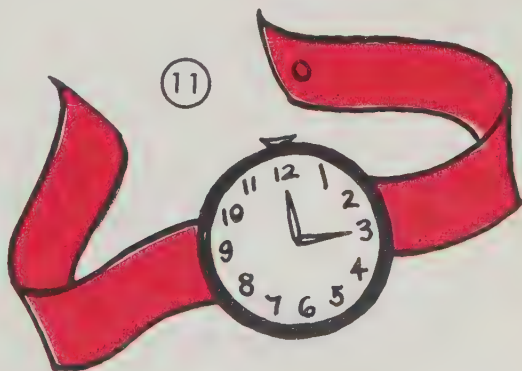
Cover the head of the pin with silver paper. Add two silver paper balls.

Run a pin through one side of a braided ring (*Picture 10*).



WRIST WATCH

Cut a picture of a wrist watch out of a magazine. Paste it onto a band of narrow ribbon which is long enough to go around your wrist. Sew a snap on the end of the ribbon to keep it in place (*Picture 11*).



RINGS

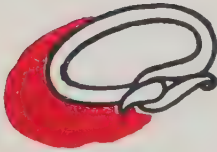
Twist a piece of wire into a ring. Use colored wax for a stone.

Make a braid from three strips of silver paper. (See page 347 for how to braid.) Pinch the ends together into a ring.

Make another ring from a twist of warm wax (Picture 12).



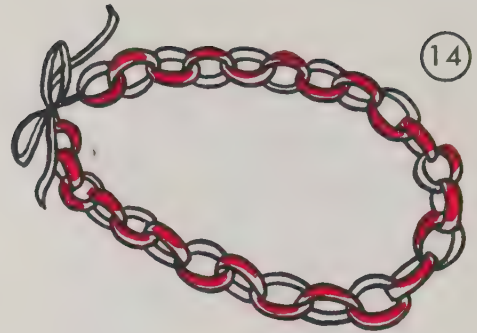
(12)



CHAIN NECKLACE

Each link of this chain is a ring of silver paper. Cut a strip of paper and paste it into a ring. Slip the next strip into this ring (Picture 13) and paste to form a ring. Add rings until your chain is long enough. Tie it on with ribbon. You can make these chains from solid colored paper too (Picture 14).

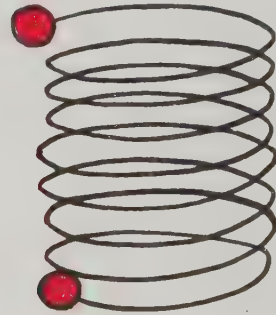
(13)



(14)

SPIRAL BRACELET

Twist a long piece of wire around your arm several times. Make the loops large enough to fit over your hand. Put a small green wax ball on each end of the wire. Allow these to harden (Picture 15).



(15)

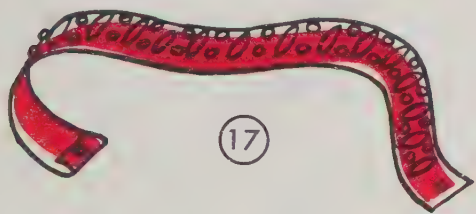
LOCKET

Cover an oval piece of cardboard with silver paper. Paste a picture in the center. Add a silver paper hanger and wear it on a narrow ribbon (Picture 16). Make a tiny locket the same way to wear around your wrist.



CEREAL BRACELET

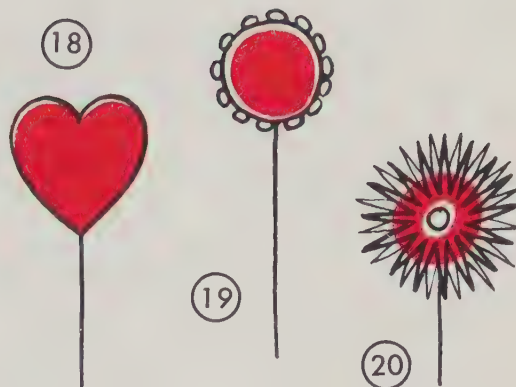
Use ribbon long enough to fit around your wrist. Fasten it with a snap. Sew pieces of puffed rice on it to look like jewels. Drop bits of melted crayon between the pieces of cereal (*Picture 17*).



MORE PINS

Cut two tiny felt hearts. Sew them together and slip over the head of a small hatpin. Stuff with cotton before sewing up completely (*Picture 18*).

Cover the head of a small hatpin with two circles of felt and sew small beads around the edge (*Picture 19*). Cut a small paper flower made by cutting two circles of paper, folding them into four, then cutting out to make pointed petals. Open up and run a pearl-headed pin through the center (*Picture 20*).



Gifts To Decorate With Small Beads and Sequins

HOW TO DECORATE—Your Mother may let you have a dress or blouse trimmed with sequins that she no longer needs. If so, cut off the sequins and use them to decorate gifts you make for your friends. Or you can buy sequins of many different colors at the dime store.

Sequins and beads can be stuck onto paper, cloth, felt, wood, or even metal. This is a good way to do it:

Have ready on a table before you a cardboard box containing sequins, another containing beads, and, beside them, the object you are going to decorate (*Picture 1*).

Hold in your left hand a tube of household or jewelry cement that you can buy at the dime store. In your right hand hold an ordinary toothpick.

Take a tiny globule of cement onto the end of the toothpick (*Picture 2*).

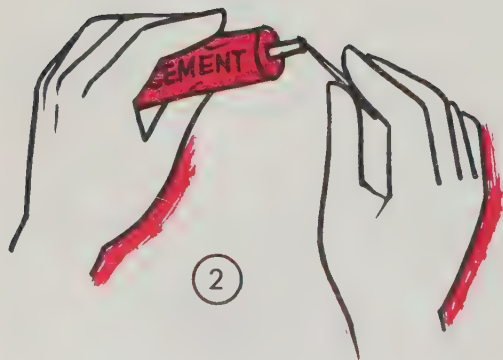
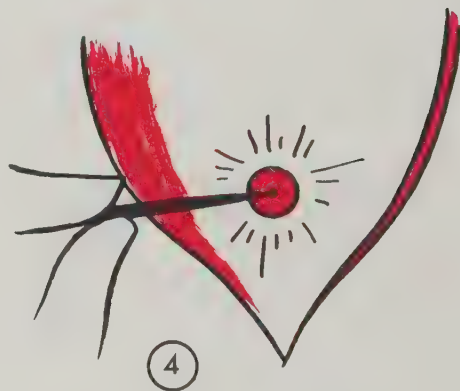
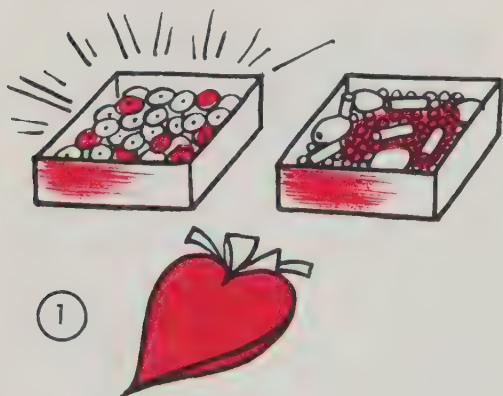
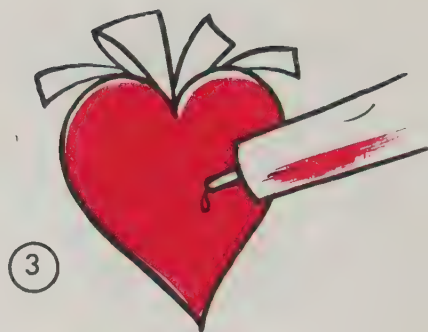
(See page 324 for gifts you can sew).

Drop the globule of cement on the object you are decorating, just where you intend to put a sequin (*Picture 3*).

Pick up a bead or sequin on the end of the toothpick. It will stick to the cement.

Stick the bead or sequin on the speck of cement (*Picture 4*).

(See page 244 for how to decorate with paint).



What to Decorate

A BUTTERFLY—Trace and cut a butterfly shape out of strong white paper (*Picture 1*).

Paint the butterfly gold or any other color you like.

Pull two bristles out of an old hairbrush and stick them onto the butterfly's head with household or jewelry cement (*Picture 2*). These are the butterfly's antennae.

Decorate the edges of the butterfly's wings with sequins and the backbone with tiny beads. If you want more glitter, add sequins and beads to the wings (*Picture 3*).

You can decorate a felt purse, a lapel ornament, a sachet, a pot-holder in the same way. (*For directions on how to make these gifts see pages 76, 77, 80*).

A LADYBIRD—Use candle-wax, beeswax, chewed gum, or even a small pebble to make a ladybird. A pebble of the correct shape would only have to be painted or crayoned a golden brown color. The other materials would have to be shaped while still soft, then allowed to harden, then painted.

When the paint has dried, paint a black line down the middle of the ladybird's back, and some black dots on the closed wings.

Cement two tiny beads or sequins in

front of the head for eyes.

HOVERING BUTTERFLIES AND LADYBIRDS—If you have made a butterfly and a ladybird like those just described, and you want to know what to do with them, here is an idea:

Take a piece of thin spool wire about 4 inches long and wind it around a pencil (*Picture 4*).

Push the spiral you have made off the pointed end of the pencil.

Cement the butterfly or ladybird to one end of the spiral and thrust the other end into the center of a paper flower (*Picture 5*). See page 150 for how to make paper flowers.)

To make your spiral longer or shorter use more or less spool wire. To make it thicker or thinner use a thicker or thinner pencil. A ladybird would need a very thin spiral.



Pretty Gift Wrappings

At Christmastime and for birthdays and other special occasions, you probably spend a good deal of thought on what you are going to give your family and friends. Then, when the gifts are all bought or made, they have to be wrapped. And if you haven't wrapped many packages before, what happens? Your paper gets crumpled, doesn't it? And the folds bulge at both ends? And your nice fresh new ribbon is tied and re-tied until it gets all limp and wrinkled.

Yet it is really easy to make a neat package—and a pretty one too—if you know how.

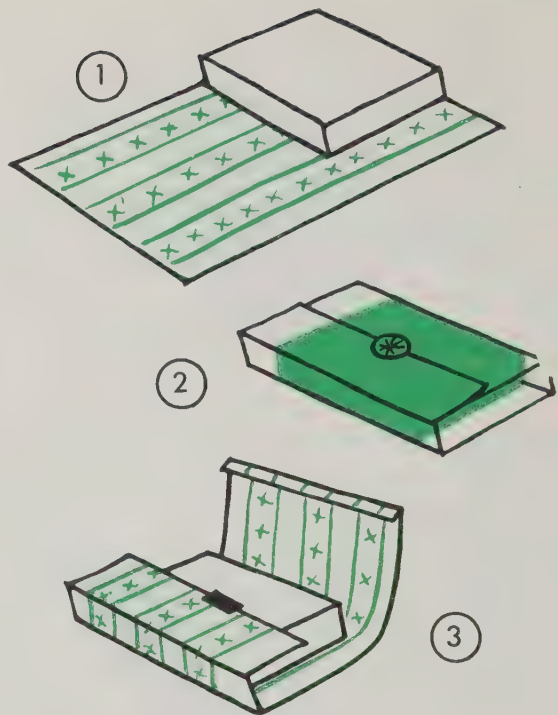
HOW TO WRAP A SQUARE OR OBLONG BOX

First, if you are wrapping a square or oblong box, measure the amount of paper you will need for it, and cut it. This is the way you measure:

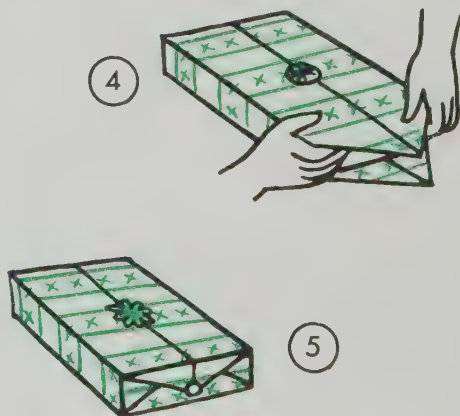
For length (the long way of the box if it's oblong) you must have enough paper to go firmly around the box, and about 1½" more.

For width, you need enough to cover twice the width of the box and twice its height, and about 1" more (*Picture 1*).

Next, wrap the paper around the box. Pull it tight and fasten with scotch tape where the ends overlap along the middle of the top of the box. If you like you can use seals instead of tape (*Picture 2*). It is easier if you fasten the tape in place on one edge of the paper before you start wrapping (*Picture 3*).



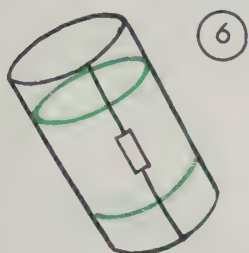
Then you fold the ends neatly. Fold the ends of the top and bottom wrappings, each of them to a point, creasing them firmly with your fingers (*Picture 4*). Fold the top flap down and the bottom flap up. Tape or seal the flaps in place (*Picture 5*).



HOW TO WRAP A ROUND BOX

If you want to wrap a round box, measure your paper exactly the same way as for the square or oblong box. Wrap around the box, fastening with tape or seals (*Picture 6*).

Crease the paper at both ends into little pleats that meet in the center. Tape the ends down or use seals (*Picture 7*).



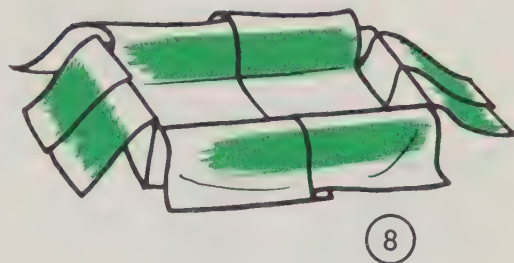
HOW TO LINE A GIFT BOX

Of course your box will have to be lined with tissue paper and the gift will have to be put inside before you wrap your package. This is the way to do it neatly:

Place a sheet of tissue paper (longer than the box) inside the box lengthwise. Make a pleat down the middle of the paper to make it fit.

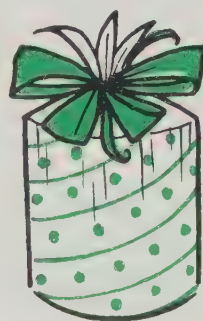
Place another sheet across the width of the box in the same way (*Picture 8*).

Put your gift in the box and cover it with the ends of the tissue paper—four ways.



HOW TO WRAP A BOTTLE OR JAR

Put the bottle or jar in the center of a double sheet of white or colored tissue paper. Bring up the four corners. Gather the paper at the top of the bottle or jar and tie with a loop bow. Pull out the ends into swirls (*Picture 9*).



RIBBON TRIMMING

Ribbon should be used to make the package look pretty, not to hold it together. Knowing that makes your job much easier.

After your package is securely wrapped, begin where you want the bow to be. Leave a 4" end of ribbon. Wrap the ribbon around the box both ways, leaving another 4" of ribbon. Then cut.

Tie the two 4" ends. These ends will tie your bow in place (*Picture 10*).



RIBBON BOWS—The bow you will probably use most often is made this way:

Hold the ribbon in your left hand and make a loop. Gather the ribbon in the middle (*Picture 11*).



Make another loop the same way, and hold this in the middle too.

Go on making loops until your bow is the right size for your package. Then tie firmly in place on the box, using the two 4" ends of ribbon to tie with (*Picture 12*).



If you make a bow with very many loops, it will be best to tie it around the middle with thread before tying it on the box.

A TAILORED BOW—Cut a piece of ribbon long enough to make the bottom (longest) loop (*Picture 13*). Paste the ends down in the middle. Make more loops, each one shorter than the one before. Place them one on top of the other and tie around the middle with a short piece of ribbon. Paste bow to box (*Picture 14*).

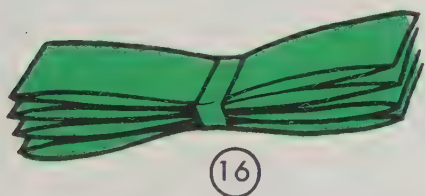


A ROSETTE—Make the first bow and add more loops until you have ten whole loops. You will need 3 yards of ribbon $\frac{5}{8}$ " wide for a rosette that measures about $4\frac{1}{2}$ " across (*Picture 15*).



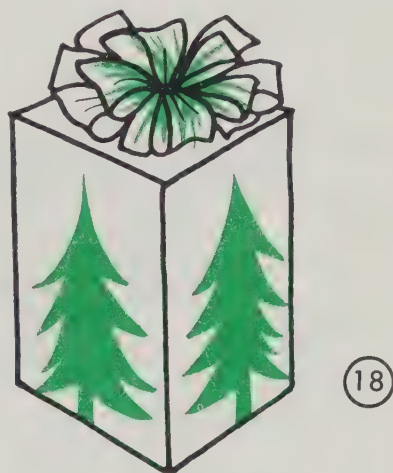
A PIN-WHEEL BOW—Make loops as you did for the Tailored bow, but make them all the same size. Place them one on top of the other, and paste a short piece of ribbon around the middle (*Picture 16*).

Stand the bow on its edges and paste the middle of the bow to the box. Spread the loops so that they look rounded (*Picture 17*).



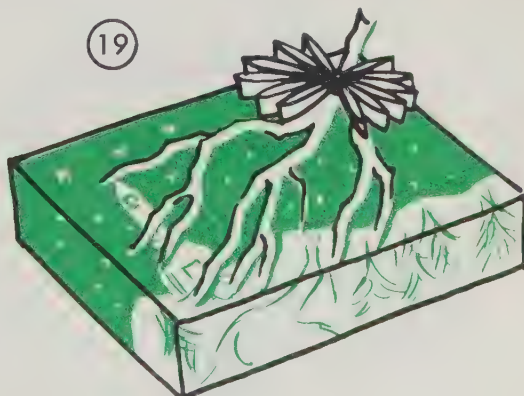
A CHRISTMAS WRAPPING

Choose plain white paper and decorate it with cut-outs of a Christmas tree or red holly berries or a poinsettia flower. Add a big rosette of red ribbon to one end of the box (*Picture 18*).



Or choose a paper that has a winter design. Paste a snowy twig on the wrapped box. To make the twig snowy, paint it white and sprinkle it with mica while the paint is still wet.

Tape a red pin-wheel bow to one corner of the box (*Picture 19*).



A BIRTHDAY GIFT WRAPPING

Draw a picture to fit the lid of your box. Color the picture with water-color paint or crayon, and paste it to the lid. Or, if you like, cut a picture out of a magazine and paste that on your box-lid. Decorate with two big loop bows (Picture 20).



FOR A BABY GIFT

For a baby gift the picture could be a teddy bear or a panda or a doggy. You could use white paper and blue or pink ribbon. Tie loop bows on the long narrow ends of the box (Picture 21).



GIFT-WRAPPS FOR BOYS AND GIRLS

For your brother or sister, or a young friend, you might make or cut out a picture of a circus or a bouquet of flowers.

Use light green tissue paper and yellow ribbon for Spring, a flowered paper and silver ribbon for Summer, yellow paper and red ribbon for Fall, and red paper and gold ribbon for Winter.

Tie the bows the same way as you did for the baby's gift (Picture 22).



What's Wrong with This Picture?



1

(Answers on page 405.)

What's Wrong with This Picture?



2

(Answers on page 405.)

What's Wrong with This Picture?



3

(Answers on page 405.)

What's Wrong with This Picture?



4

(Answers on page 405.)

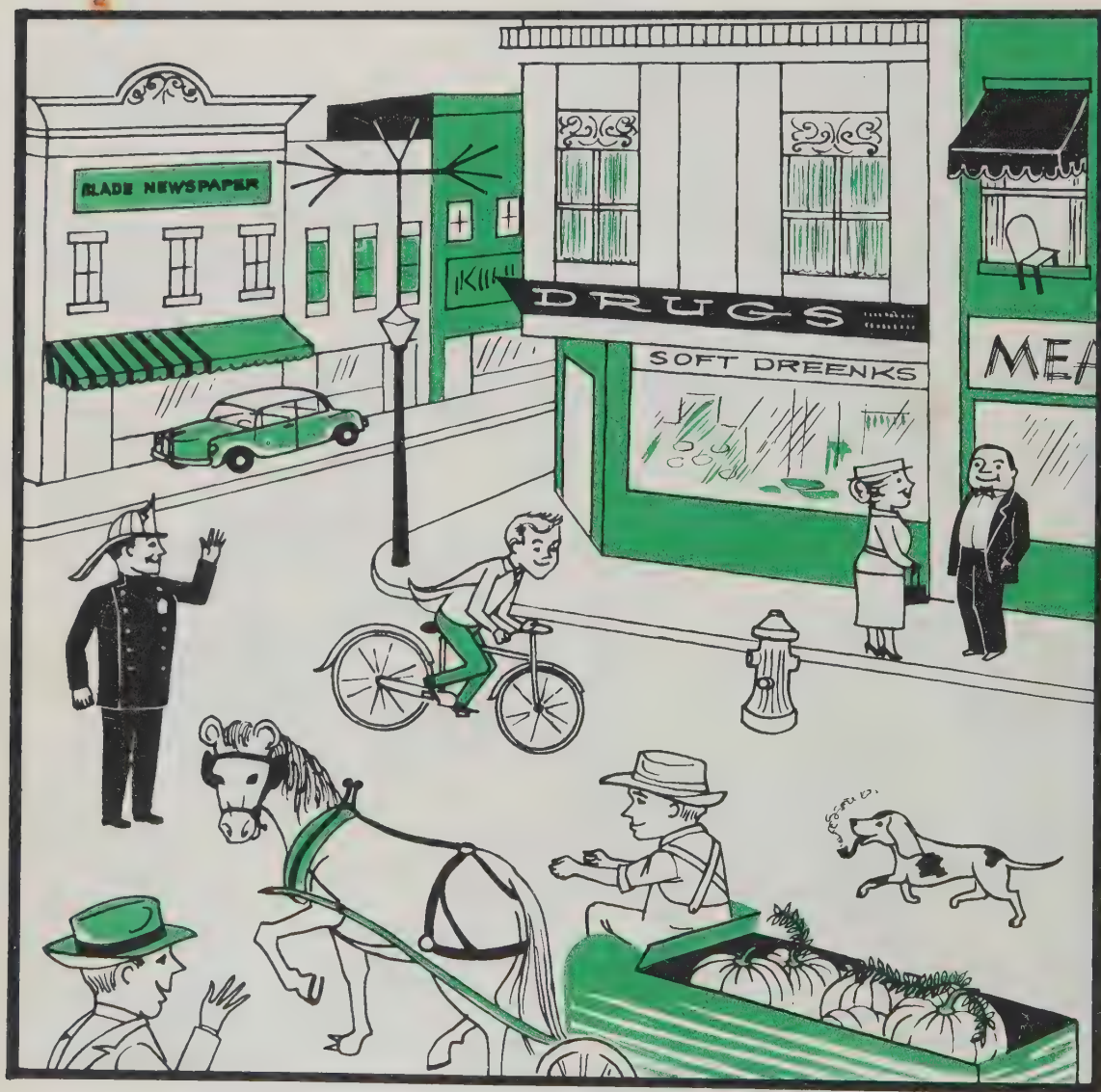
What's Wrong with This Picture?



5

(Answers on page 405.)

What's Wrong with This Picture?



6

(Answers on page 405.)

(Answers on page 405.)

What's Wrong with This Picture?



8

(Answers on page 405.)



Games of All Kinds

This Section is full of games to play. You will find here games you can play with any number of your friends, outdoors and indoors, at parties and on all kinds of special occasions. You will have plenty to choose from.

Indoor Games

Sometimes you and your friends may want to play indoors and you cannot think of a game to play. Here are some you may like to try.

HIDE THE THIMBLE—One of you is sent from the room. The rest then hide a thimble, and the child sent away is called back to hunt for it. While the hunt is going on, you all clap your hands—softly when the hunter goes far away from the thimble, and louder and louder as he gets near it. When he finds it he decides which child shall be sent out of the room next.

HISS AND CLAP—A boy goes out of the room. The rest of you decide which one of you he is to kneel to when he is called back. If he does not kneel to the right child, you all hiss, and he goes outside again and makes another try. If he does, you all clap your hands. Next time a girl goes out. A boy should kneel to a girl and a girl to a boy.

HOT BOILED BEANS AND BACON—One of you goes out of the room while an object is hidden. You all call out:

“Hot boiled beans and bacon!
It’s hidden and can be taken!”

The child comes back and searches for the hidden object. You call out “Hot” when he gets near it, and “Cold” or “Very Cold” when he gets farther and farther away from it. When he is very near it you call “Burning.” When the object is found, another child is chosen to search for another object.

HUCKLE, BUCKLE, BEANSTALK—In this game one child hides a thimble while the rest of you are out of the room. The thimble should be hidden in some place where it can be seen without moving anything, but not right out in the open. The first child who sees it sits down and says, “Huckle, Buckle, Beanstalk.” The game goes on until everyone has seen the thimble. The child who was the first to see it hides it next time.

HUNT THE RING—Slip a ring on a long cord and tie the ends together. Form a circle and all of you hold the cord in your hands. One of you is the Hunter and stands in the center of the circle. You pass the ring along the cord from hand to hand, quickly, trying to keep

the Hunter from finding it. When he does find it he joins the circle, and the child last holding the ring becomes the Hunter.

SPIN THE PLATTER—You are each given a number. You form a circle around one boy or girl who is given a plate (a plastic plate is best for this) and is told to spin it and call a number. The child whose number is called must catch the plate before it stops spinning. If it is not caught in time the child called becomes the next spinner.

BUTTON, BUTTON—All of you sit in a circle. Choose one who holds a button to stand inside the circle. You hold your hands in front of you, palms together. The one inside the circle holds his hands together the same way. He goes around inside the circle and you all let him slip his hands down between your hands. When he has gone all around the circle, you know he has left the button in someone's hands. Then, when he says "Button! Button! Who's got the button?" you all try to guess where it is. Whoever guesses right passes the button next time.

BLOWING BUBBLES—Fill a quart jar with hot water. Add a tablespoonful or more of soap flakes. Three or four tablespoonfuls of glycerine will make the bubbles stronger. You can also add vegetable coloring if you like. Give the jar a good shaking, strain the mixture if necessary, and let it cool.

Use clay pipes, bubble blowers, or soda straws. If you use straws, make a slit at the end where the bubbles form

and bend the two cut ends back.

See who can blow the bubbles farthest and highest.

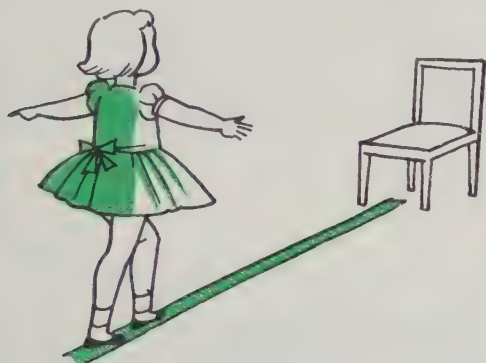
DONKEY'S TAIL—Draw a large Donkey, without a tail, on a sheet of wrapping-paper and pin or tack it on the wall. Cut donkeys' tails out of colored paper. You each have a number and you write your number on your donkey's tail. You are each blindfolded, turned around once or twice, given a push towards the donkey, and told to pin the tail on the Donkey. Whoever pins the tail on the Donkey nearest where it belongs wins.

HIDE AND-GO-SEEK (Sitting Down)—Sit on the floor in a circle. One of you is the Leader who thinks of a hiding-place and says, "I am hiding somewhere in this house. Where am I?" Or it could be "I am hiding somewhere in this room." The one who guesses the hiding-place the Leader is thinking of becomes the next Leader.

CRANBERRY STRINGING—Everyone is given a rather long needle threaded with strong thread knotted at the end. A bowl of cranberries is placed on the floor, and you all sit in a circle around it. Someone who is not playing says "Start!" and you begin stringing cranberries on your thread. The one who strings twelve berries first scores five points. The one who strings twelve berries next, scores three points. You do this again and again until all the cranberries are used up. Then you count scores to see who has won. If you haven't

any cranberries, you can string popcorn instead.

WALK THE LINE RELAY—Two teams play this game. You line up one behind the other. A piece of tape eight feet long is stretched in front of the first child in each team, and a chair is placed at the end of each tape. At the word “Go!” the first child starts walking towards the chair. The child must stay on the tape



all the time, must touch the chair, and return to the starting-point and tag the second child. This second child then does the same, and so on. No one may start until he has been tagged. The team that finishes first wins. The tape can be pinned down if you are playing on a rug, or thumbtacked to a bare floor.

EGG AND SPOON RACE—You divide into two teams. You are each given a soup-spoon to hold between your teeth. A hard-boiled egg is put in the spoon of the first child in each team. Someone who is not playing gives the signal “Go!” The first child in each team takes the egg from his spoon and puts it in the second child’s spoon, using only one hand. Then the second child does the same, putting



the egg in the third child’s spoon. And so on to the end. If a child drops the egg he must pick it up with the spoon, without the help of the other hand. He must put the spoon with the egg on it back between his teeth before passing the egg on. The team that finishes first wins.

GHOSTS—This is a spelling game. Each of you in turn adds a letter to a word that is being spelled, but you must never finish it. If you do, you become one-third of a ghost. For example, if someone starts a word with the letter “b”, and the next person says “e”, that person becomes a one-third ghost because he finished the word “be”. If you finish a word twice you become two-thirds of a ghost. And if you finish a word three times you become a complete ghost and must drop out of the game.

When one word is finished you start another.

You can challenge any letter used by a player if you think this player has no real word in mind. If you are wrong, though, you become a one-third ghost.

If you are right the other player becomes a one-third ghost.

The one person left after everybody else has become a ghost wins the game. **HOT POTATO**—One of you is chosen to be the Leader. The rest of you sit in a circle around him. The Leader has a handkerchief knotted into a ball, called a Hot Potato, and he throws this to someone in the circle. This child quickly throws it to someone else, and so on. Anyone who is tagged by the Leader while holding the “Hot Potato” becomes the next Leader.

SIMON SAYS—One of you is chosen as

the Leader. The others stand around him and do and say everything he does and says. Only there is a trick to it. You must obey the Leader only when he says “Simon says . . .” If he says “Fold your arms!” you take no notice. But if he says “Simon says ‘Fold your arms!’” then you fold your arms. The Leader should give his orders quickly and sharply, to try to catch players off guard. You drop out of the game if you obey when the Leader does *not* say, “Simon says.” The one who stays longest in the game wins and becomes the Leader next time.



Outdoor Games



These are games to play out of doors. They are running games, and for running games you need plenty of space.

SQUIRRELS IN THE TREE—Divide yourselves into groups of three. Each group forms a circle by holding hands. Each circle is a Hollow Tree, and inside each Hollow Tree is a child who is called a Squirrel. Two children stay outside the circles—one the Dog and the other a Squirrel. The Dog chases the Squirrel. The Squirrel runs for shelter to one of the Hollow Trees, and the Squirrel who is already in that Hollow Tree has to leave it and run to another Hollow Tree. The Dog tries to catch this Squirrel while he is out in the open. When a

Squirrel is caught he becomes the Dog. **TOMMY TIDDLER'S GROUND**—Mark off a big circle, using a stick if you are playing on a dirt yard, or chalk if you are playing on a paved yard. The space inside the circle is Tommy Tiddler's Ground. One child is chosen to be Tommy Tiddler and stay on his ground. The rest of you run in and out of the circle, calling out:

“I'm on Tommy Tiddler's ground,
Picking up gold and silver.”

Tommy Tiddler tries to catch whoever is inside the circle. When he does, that

child takes his place as Tommy Tiddler, and Tommy Tiddler joins the children outside. Or you can play it so that each

child stays inside the circle to help Tommy Tiddler catch the rest.

Outdoor or Indoor Games

In fine weather you can play any of these games in your yard or in a playground. If it rains you will enjoy them just as much indoors.

ANIMAL CHASE—Choose sides and line up, one side at each end of the room or playground. One person is IT. Each of the others takes the name of some animal.

IT stands in the middle, between the two lines, and calls out the name of an animal. Whoever has taken the name of this animal must run across to the opposite line. If IT catches this person on the way across, he or she becomes IT. The first IT takes the animal name of the boy or girl who was caught and joins the opposite line. The game ends when everyone has gone over to one line.

BEAN BAG—Form yourselves into a line and choose a Leader, who is to stand a few feet away from the line, facing you.

The Leader throws the bean bag to each one in the line, in turn, and it must be thrown back to the Leader. Whoever misses the bean bag goes to the end of the line. If the Leader misses he goes to the end of the line, and whoever is at the top end of the line becomes the Leader. You can change the distance of the Leader from the line for each game if you like.

THE BEAR PIT—Clasp hands and form a circle. The space inside this circle is the Bear pit. Whoever is chosen to be the Bear stands in the Bear pit. The Bear tries to get out of the pit by pulling apart the clasped hands or by going under them. If the Bear manages to escape, you all chase him, and whoever catches him becomes the Bear for the next game.

BLIND MAN'S BUFF—One of you must be blindfolded. This one is the Blind Man, and he stands inside the circle made by the rest of you. You all move round in the circle and stand still when the Blind



Man claps his hands three times. He points a finger, and whoever the finger is pointing to takes a step into the circle. The Blind Man tries to catch him. When he does he tries to guess who it is by running his hands over the captive's face. If he guesses right the captive becomes the Blind Man for the next round.

You can change this game by having someone play the piano or a record, and when the music stops the Blind Man points.

CAT AND MOUSE—All of you, except two, clasp hands and form a circle. The two left out are the Cat and the Mouse. The Cat chases the Mouse around the outside of the circle. You let the Mouse in and out of the circle by raising your clasped hands, but you keep the Cat out. When the Cat does catch the Mouse, the Mouse chooses a new Cat and the old Cat becomes the Mouse.

BROWNIES AND FAIRIES—Form two lines, one called the Brownies and the other the Fairies. The Fairies stand with their backs to the Brownies. The Brownies creep quietly up behind the Fairies, and when they are about eight or ten feet away, their leader calls out, "The Brownies are coming!" The Fairies turn swiftly around and run after the Brownies and catch as many as they can. Those who are caught must join the Fairies. Next time the Brownies turn their backs, the Leader of the Fairies cries, "The Fairies are coming!" and the Brownies turn around and run after the Fairies and catch as many as they can.

The game is over when all the children are in one line.

CATCH THE HANDKERCHIEF—You all stand in a circle with IT in the center. Everyone has a number. IT holds a large handkerchief and throws it into the air, and at the same time calls a number. The child who has that number must run and either catch the handkerchief before it falls to the ground or become IT.

CATCHING THE FISH—All except six of you stand on one side of the room or playground. You are the Fish. The six left out are the Net. The Leader of the Fish calls out, "Fish, run!" and you all run toward the Net. The six who are the Net clasp hands and try to take as many Fish into their circle as they can. All the Fish that are caught in the Net become part of the Net. The game ends when all the Fish are caught.

HERE I BAKE, HERE I BREW—Clasp hands and form a circle. One of you stands in the center—the Prisoner. The Prisoner says:

"Here I bake! Here I brew!

Here I mean to get through!"

The Prisoner lays a hand on the clasped hands of one couple, saying "Here I bake!" Then on the clasped hands of another couple, saying "Here I brew!" But when he says "Here I mean to get through!" he dashes in an unexpected direction trying to break through. He has to go on being the Prisoner until he breaks through. Then he decides which of the two whose hands

he pulled apart is to be the next Prisoner.

RUNNING MAZE—You form a line behind one child, who is the Leader. The Leader starts running. You all follow, staying in line. Everything the Leader does you all do—hop, skip, march, clap hands, hands on hips, hands on heads, and so on. In the end the Leader winds the line slowly around and around into the center of a circle, and then unwinds. No one wins in this game. You just play it as long as you are having a good time.

PAPER CHASE—If you live in or near the country, a Paper Chase, or Hare and Hounds game, will give you a good long run through the woods. But you can

have a good Paper Chase in your backyard, or even indoors.

The Hares lay the trail by scattering bits of paper as they run. The paper should be torn into small pieces, about two inches square.

The Hounds wait five minutes, with their eyes closed, then start off after the Hares, picking up every scrap of paper as they go.

If the Hares get back to the starting-place without any of them being caught, they are Hares again for the next game. If the Hounds leave any pieces of paper on the ground (or floor) they lose and must be Hounds again.

Holiday Games

Perhaps on a holiday you would like to play a game that suits that particular day. If so, choose one from these

games for Christmas, St. Valentine's Day, Thanksgiving, your Birthday, and almost all the special days of the year.

CHRISTMAS GAMES

STARS ON THE CHRISTMAS TREE—Paste a large green paper Christmas Tree on a sheet tacked onto the wall. You each have a colored star with your name on it. One by one you are blindfolded, turned around three times, and pushed in the direction of the tree to pin your star on the tree. The one who pins the star nearest to the top wins.

RINGING THE CHRISTMAS BELLS—Hang a cluster of little silver bells from the top of an archway or doorway and hang red and green ribbons from the bells. Each of you is blindfolded in turn, then spun around and started in the direction of the bells. The ones who find the ribbons and ring the bells get prizes.



THROWING SNOWBALLS—Sit in a circle, with one of you in the center. This boy or girl is IT. IT holds a large cotton snowball. IT throws the snowball to anyone in the circle, who throws it to someone else. IT tries to tag whoever holds the snowball. The child tagged becomes IT.

Another way to play this game is to

throw snowballs through a large Christmas wreath. The wreath is hung in a doorway and you all throw the snowballs through the wreath, one at a time of course. If you give numbers to the snowballs, and you divide yourselves into two teams, the team wins that has the biggest score when the numbers on the snowballs are added up.

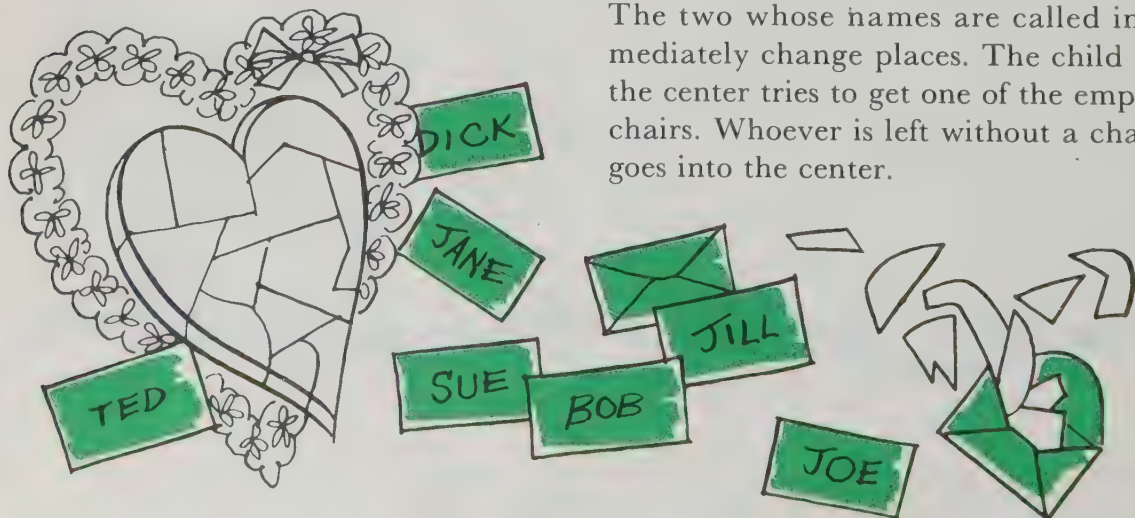
VALENTINE DAY GAMES

VALENTINE HUNT—One of you leaves the room while the others hide a Valentine. The one outside is called back and begins hunting for the Valentine. You all call out “Hot Valentine!” when he goes near it, and “Cold Valentine!” when he goes away from it. When he finds the Valentine he decides who shall go out of the room next.

You can change this game by having all but two go out of the room while the two hide the Valentine. Then the others come in and hunt.



VALENTINE POST OFFICE—You are all in a circle, seated on chairs, except one child who is in the center, and another who stands outside the circle and is called the Postman. The Postman calls, “I have a Valentine from — to —!” The two whose names are called immediately change places. The child in the center tries to get one of the empty chairs. Whoever is left without a chair goes into the center.



MENDING HEARTS—Have some large cardboard hearts cut into several pieces like jig-saw puzzles. Put each of these cut-up hearts into a red envelope. Write a guest's name on each envelope and give them out. You can all have a little

rest and quiet for a while putting the cardboard pieces together to make hearts.

MUSICAL HEARTS is also a good Valentine Day game. (See page 114.)

EASTER GAMES

EASTER EGG ROLL—Play this game either outside on a smooth lawn or on the floor of your largest room. Use hard-boiled eggs or candy eggs. You each have a berry-basket lined with colored paper, and with four or more eggs in it. You roll your eggs and try to hit someone else's egg. If you do, you take his egg and your own.

Another way to roll eggs is this: All stand behind a starting line and roll your eggs as far as you can. The one whose egg rolls farthest wins the game.

WHO CARRIES THE EGG?—Use hard-boiled eggs or candy eggs. You divide into two lines and the Leader of each line is given a spoon with an egg in it. At the word "Go!" the Leader runs to the other end of the room and back, balancing the egg on the spoon. When he gets back to his place he hands the spoon and egg to the child next to him and goes to the end of the line. The second child does the same, and so on until everyone in the two lines has carried the egg. The line of children carry-

ing the egg safely all through the game, without dropping it, wins.

BUNNY RACES—You all stoop and raise your hands at the side of your heads to look like rabbits' ears. You jump in short hops across the room to a tape stretched across the floor. The one reaching the tape first wins a prize—a toy rabbit. If you put your other foot on the floor during the race you are out.



HALLOWEEN GAMES

JACK O' LANTERN RELAY—Form two or three lines, according to how many of you are playing. You should be one behind the other in each line. A Jack o' Lantern is set up at the head of each line, about twelve feet away. At the word "Go!" from someone who is not playing the first child in each row runs to the lantern, around it, and back to where he started from. He tags the child behind him in the line and goes to the end of the line. The child tagged does the same. The line finishing up first is the winner.

OLD WITCH AND THE CAT—You all sit on the floor in a half circle. Your heads are bent down over your folded arms. You are the Cats. One of you has been chosen to be the Witch. The Witch stands a little way off from the Cats,

with her back to them. One of the Cats meows. The Witch turns around quickly and tries to guess which Cat meowed. If she guesses right that Cat becomes the Witch. If not, the Witch hobbles around the circle, and as she goes around it, the Cats, one at a time, tease her by meowing. As soon as the Witch guesses which Cat has just meowed, that Cat becomes the Witch.

PUMPKIN BEAN BAG—Cut a face out of a large piece of heavy cardboard covered with yellow paper. The mouth, nose, and eyes are just large holes. You toss a bean bag, trying to get it through the mouth, or the nose, or the eyes. If you toss it through the mouth, it counts five. It counts ten for the nose, and twenty for either of the eyes. The highest score wins.

THANKSGIVING DAY GAMES

RUBBER RINGS OVER TURKEY—Paste a picture of a large Turkey on cardboard, or draw the Turkey yourself. Drive nails into the board on different parts of the Turkey, and write a number in crayon beside each nail. Every child who is playing gets six rubber jar-rings. You all stand about ten feet away from the Turkey and take turns trying to throw your rings over the nails. You score ac-

cording to the numbers written beside the nails.

INDIAN RACE—Choose up sides and form two lines facing each other. The first child in each line is an Indian Chief. The two Indian Chiefs cross from one line to the other, in Indian fashion, putting one foot in front of the other—the heel of one foot touching the toe of

the other. Each Chief tags the child who is second in line, and takes his place at the end of the line. The child who was tagged then does the same, then the third, and so on. The side that finishes up first wins.

PICKING UP CORN—Set out rows of corn kernels along the floor, as many rows as there are players. Each of you has a berry-basket or paper bag. At the word “Go!” you all start picking up the kernels and putting them into your basket or bag. The one who first gets back to the starting-place with all the corn

kernels in the row picked up is the winner.

THROWING BEAN BAGS—Place three bowls, one very large, one medium-sized, and one very small, one inside the other. Each of you has a small bean bag and you take turns throwing your bean bags into the bowls. You score 10 if your bag lands in the large bowl, 25 if it lands in the medium-sized bowl, and 50 if it lands in the small, center bowl. The one who has the highest score after trying three times is the winner.

BIRTHDAY GAMES

BIRTHDAY PARTY SCAT—Count the number of players and have one less chair in the room than there are players. You all line up behind a Leader and march around the room doing whatever the Leader does. If he hops you all hop; if he skips you skip; if he kneels or sits on the floor you do the same, etc. Suddenly he calls out, “Birthday Party Scat!” You all run for chairs. The one who doesn’t get a chair becomes the next Leader.



ANIMALS’ BIRTHDAY—Stand in a circle with the Leader in the center, blindfolded. You are all given the name of an animal. The Leader calls, “Happy Birth-

day, Dog!” Whoever has taken the name “Dog” barks like a Dog, and the Leader tries to guess who it is. If he guesses right he goes on being the Leader, and calls out “Happy Birthday, Cat!” or whatever other animal he chooses. If he guesses wrong “Dog” takes his place as the Leader.

PENNIES IN THE BAG—Fold down the top of a paper bag over a ring of wire so that the bag will stay open. You take turns throwing pennies into the bag. Each child gets as many pennies as the number of years of his age. If you are eight you get eight pennies, and so on. Save the pennies that go on the floor to be used next time you play.

MOTHER GOOSE GAME

BO-PEEP AND HER SHEEP—One of you is blindfolded and holds a shepherd's crook. This is Bo-Peep. The rest of you circle around Bo-Peep and sing, "Bo-Peep has lost her Sheep!" When Bo-Peep points her crook at one of you, you stop singing. The child pointed to replies with "Baa! Baa!" and Bo-Peep tries to guess who it is. If she guesses right the child she catches becomes Bo-Peep for the next game.

ST. PATRICK'S DAY GAME

ISLANDS GREEN—Tack large circles of green paper to the floor with thumb-tacks. You all march around the room while Irish tunes are played on the piano or on a record. When the music stops you run for the green circles. Only three children are allowed on one circle. Those who cannot get on a circle drop out. Whenever this happens one circle is taken up from the floor. The game goes on until only one circle remains.

COWBOY GAME

COWBOYS AND INDIANS—Have an equal number of Cowboys and Indians. All the Cowboys except one go to sleep. This one stands on guard. The Indians creep up on the sleeping Cowboys from behind the bushes and trees and try to 'tag' them. (Boxes and lawn furniture will do if you have no real trees or

bushes.) But the Cowboy on guard cries "Look out!" and up jump all the Cowboys and chase after the Indians. Every tagged Indian becomes a Cowboy. The game ends when all the Indians have been captured.

If the game is played again, this time it will be the Indians who lie down and sleep, while the Cowboys come creeping up to surprise them.

Musical Chairs and Other Games Like It

GOING TO JERUSALEM—Place chairs in a circle with their seats facing outward. Have one less chair than there are players. You all march around the chairs while music is played, and scramble for seats as soon as the music stops. Whoever is left without a seat drops out, and one chair is taken away from the circle. The game ends when there is only one player left. He has reached Jerusalem and wins the game.

MUSICAL HEARTS—This game is like *Going to Jerusalem*, except that red paper hearts are laid on the floor instead of chairs. When the music stops everyone scrambles for a red heart. Whoever does not find one drops out, and one heart is taken up from the floor. The game goes on until only one child remains.



MARCH ON THE NEWSPAPERS—Lay newspapers on the floor from one room to another. You march alongside the newspapers to the sound of music. When the music stops anyone whose foot is touching a newspaper must drop out of the game. The game goes on until one person is left. That person wins.

KING LION—You sit in a circle on chairs facing outward. One of you is King Lion. Each of the rest of you takes the name of some other animal. King Lion has no chair. He walks around the circle and calls the names of different animals. Each child gets up and follows King Lion when he hears his animal name called, and marches behind the King. When all the names are called, you all march behind King Lion until he says, “I am hungry!” Then he starts running and suddenly drops into a seat. You all scramble for seats and the one who is left without one is King Lion for the next game.

Paper and Pencil Games and Stunts

TICK, TACK, TOE—Draw 4 cross lines like this:

X		O
	X	X
O	O	O

There are two players. One writes only noughts, the other only crosses. In turn, one writes a cross and the other a nought in one of the spaces, and this goes on until one player writes 3 crosses or 3 noughts in a row, either up and down, or across, or diagonally.

The player who does this wins the game.

The same game can be played by three persons if you draw cross lines like this:

A			
	B		
	B	C	
			A

Instead of writing noughts and crosses the players in this case put A, B, or C in the spaces.



HIDDEN WORDS — The more players in this game the better. Each player is given paper and pencil. One of you chooses a word and you all write it down. It should be a rather long word.

The player who chooses the word has a watch and gives you 5 minutes to write down words of two or more letters, as many as you can, that are all contained in the long word you have written down.

For example, the word chosen may be PREPARATION. Here are some of the words you can make out of the letters in it:

Nap	note	tarn	ration
tap	tone	tart	print
rap	rate	part	printer
rip	rare	tint	proper
pare	ripe	pant	train
pair	pipe	trap	ration
tire	port	prop	trepan
pore	pint	rite	reap
pine	torn	rate	reparation

Can you think of some more?

The player who writes down the most words in ten minutes wins. The winner starts the game all over again with another word.

CATEGORIES—One way of playing this game is for all the players to have a sheet of paper and write on it a list of categories, one below the other, like this:

Countries

Rivers

Towns

Animals

Sports or Games

Or any other category you like.

One of you chooses a letter of the alphabet. Let us say it is “B”. You all write down the names of countries, rivers, towns, animals, sports, etc. that begin with the letter B.

You score one point for each correct name you have written down, and one extra point if you are the only one to

think of that name. Or, if you like, you can score *only* for names you have that no one else has.

Of course there must be a time limit, usually five minutes.

Another way to play this game is this:

Each player draws lines on his paper as shown below. The categories you choose are written across the paper. You decide upon another word as long or short as you like, and write this word on the left of the paper, one letter under the other:

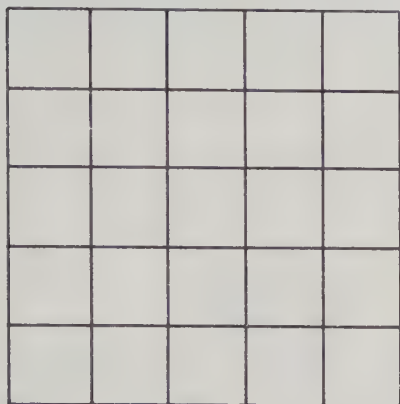
Countries	Rivers	Towns	Animals	Sports
P				
A				
R				
I				
S				

In the example given here you would write in the top row of boxes the names of all the Countries, Rivers, Towns, Animals, and Sports, beginning with P that you can think of. Then you would write the names of all the Countries, Rivers, Towns, Animals, and Sports, beginning with A that you can think of. And so on, ending with S.

You score the same way as in the first game. The time limit is ten minutes.

WORD BUILDING—This is a game of filling squares with letters of the alphabet. Any number of people can play it.

You each have paper and pencil and



(1)

One of you begins by calling out a letter. It may be any letter, but let us say it is A. Then you all put down A in one of the 25 little squares you have drawn (*Picture 1*)—any square you choose.

The next player calls out another letter, and you all put that letter down in one of your own little squares.

And so you go on until you have all filled 24 squares. Then you each fill the last square with any letter you wish.

The object of the game is to form as

you each draw a large square on your sheet of paper. You then divide this big square into 25 little squares (*Picture 1*).

P	O	S	B	Y
A	L	H	U	H
T	R	A	C	E
C	M	T	Y	V
H	I	E	N	S

(2)

many complete words as you can. Any word counts that can be read up or down or across or even in a diagonal.

When you have finished, your square may look something like the one in the drawing (*Picture 2*). But the player who filled in this square would score 22 points, as follows:

P L A Y S	5	points (one for each letter)
T R A C E	5	"
I T C H	4	"
E Y E	3	"
P A T C H	5	"



BOXES—This is a game for two to play.

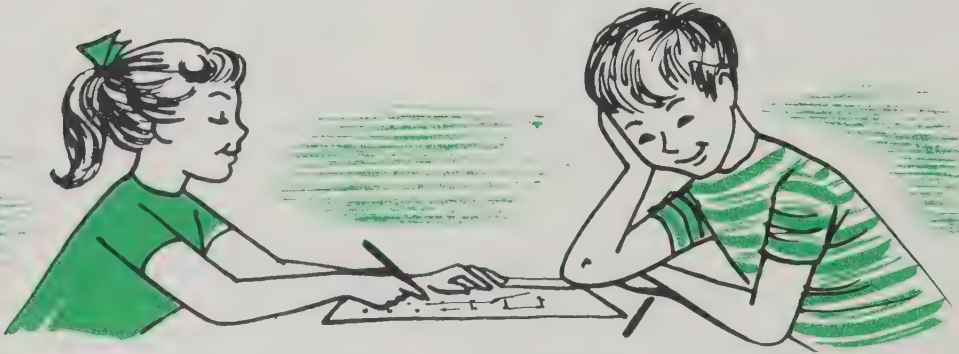
Make a row of 7 dots on a piece of paper. Below that make 6 more rows of 7 dots, like this:



You take turns drawing lines from one dot to the next one, up and down, or sideways. You both try to enclose as many squares as you can. At the same time, you both try to draw your line so that it will keep your opponent from completing a square, or box.

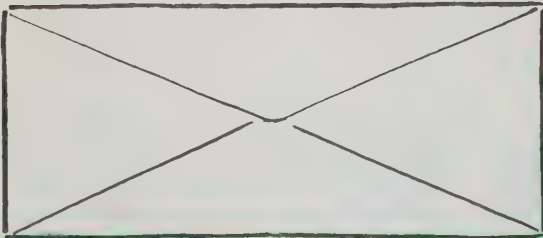
When you do complete a box you write your initial inside it, and you get a chance to draw another line.

The one who has the most boxes wins.



MIRROR DRAWING — Any number of players can try this game.

You sit at a table, one at a time in front of a mirror, with paper and pencil. You then try to draw a shape like the back of an envelope, like this:



While doing this you must look, not at your own hand and drawing, but at the reflection of these in the mirror. You will find it more difficult than you think, and lots of fun. The player who makes the best drawing wins.

You might also try the same game, this time writing your own name.



Pictures to Make Out of Colored Paper

Pasting colored paper shapes on cardboard is one way of making pictures. Do not put small details into this kind of picture. Choose subjects that have big simple shapes.

YOU WILL NEED:

- Colored construction paper
(You can buy this in packages at Art-Craft or Stationery Stores)
- Thin white cardboard
- Rubber cement
- Scissors

Make your pictures on white or blue or green construction paper. If you use white or blue paper you will then be able to leave the top part as it is for a sky. If you use green paper you can leave the bottom as it is for green grass or green fields.

A Landscape

Cut a piece of white cardboard about 3½" by 4¼". Cut the following shapes out of your colored construction papers:

- A green strip of grass
- A brown tree-trunk
- The green leafy part of the tree
- A red barn
- A yellow door and 2 yellow windows

(See Color Plates between pages 118, 119.)

A yellow sun

Place the white cardboard on a table in front of you.

Brush rubber cement on the back of the grass strip and paste it on at the bottom of your picture.

Paste the tree-trunk slightly to the right in the picture you are making, and let it grow out of the grass. Paste the green part of the tree above the trunk.

Paste the yellow door and the 2 yellow windows where they belong on the barn, and paste the finished barn to the left of your picture.

Paste the sun in the sky.

When the paste is dry, paste your picture on a piece of blue cardboard or construction paper a little larger than the picture itself. This is called mounting a picture, and makes it look as though it were in a frame.

Sailboats

Cut out sails, boat-hull, masts, sky, sea, and a moon or rocks, if you like, and paste them on white or blue cardboard in the same way. Always paste the background of land or sea on the cardboard before you put in the smaller objects.

An Indian

Paste these shapes in the proper place on the white cardboard in the order in which they are listed:

A brown face

Black hair

Yellow headband

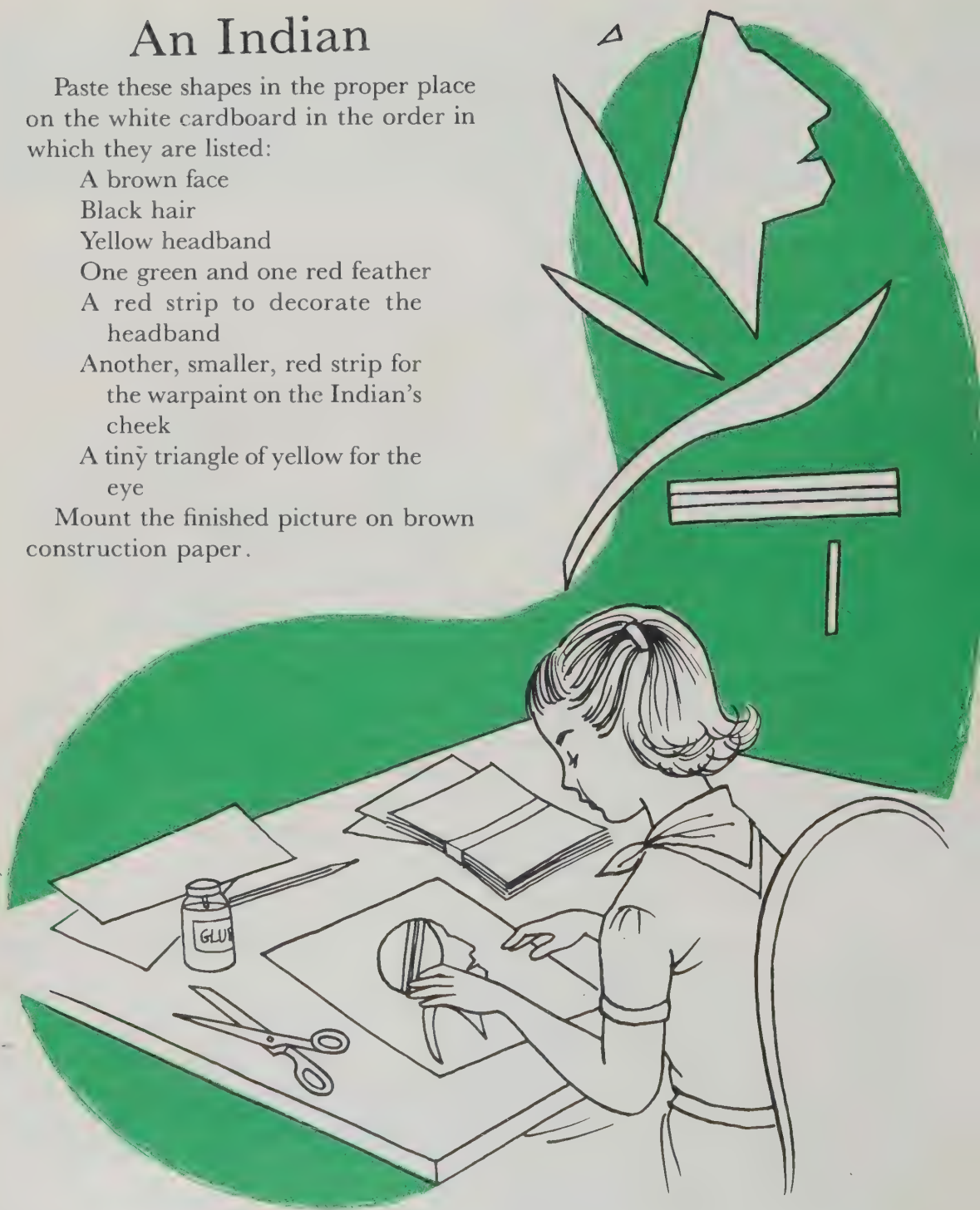
One green and one red feather

A red strip to decorate the headband

Another, smaller, red strip for the warpaint on the Indian's cheek

A tiny triangle of yellow for the eye

Mount the finished picture on brown construction paper.





Shadow Pictures



Making shadow pictures is simple. Practise doing some of those shown in these pages. You will soon be able to do them so well that you will want to invite your friends to come and see them.

Stand a few feet away from a bare, smooth-surfaced wall. Or you can stretch a small sheet tightly across an open doorway so that there are no creases in it, and fasten it with thumbtacks.

You need one unshaded light behind you. The rest of the room must be dark, and the room behind the sheet curtain must also be dark if you are going to use that for a background.

If you want to make your audience laugh, wiggle your fingers to make the donkey wag its ears, or the elephant sway its trunk back and forth.



HORSE



WOLF



DONKEY



GOAT



GIRAFFE



BULL



DEER



ELEPHANT



SWAN



EAGLE



A BIRD FLYING



DUCK



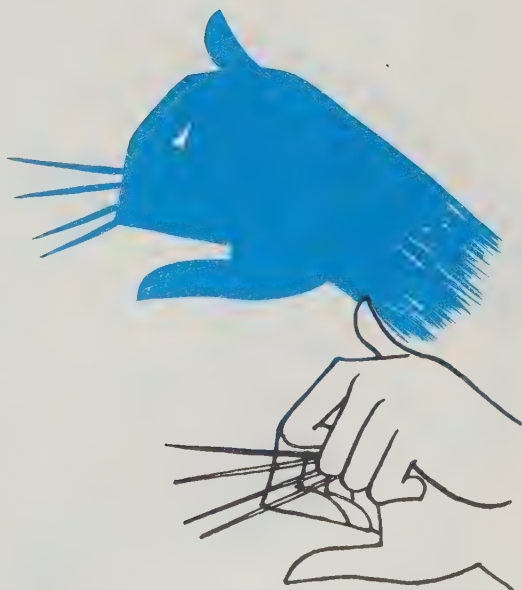
RABBIT



RABBIT EATING



DOG



CAT



SNAIL



INDIAN



ROOSTER



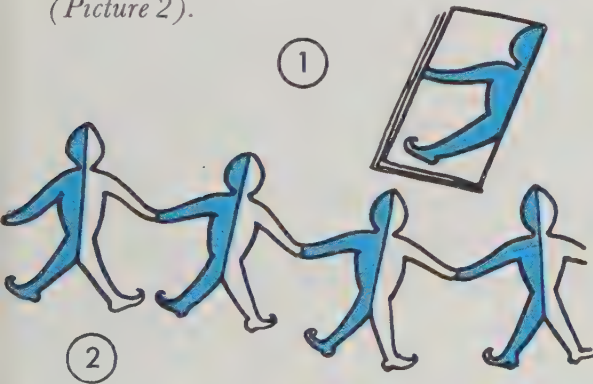
GEESE

Things to Make Out of Paper

You will be able to make many of the things in this Section out of paper you have in the house, so long as it is clean and smooth. Newspaper will do for some of the cut-outs. Take old shoe-boxes apart for cardboard.

LITTLE PEOPLE

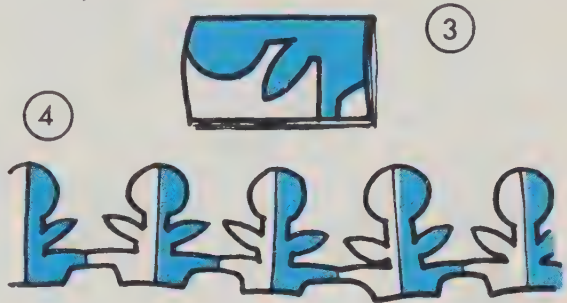
Make a row of little people by starting with a strip of paper which measures 10" by 4". Fold in half so it is 5" by 4". Now fold in half two more times to measure 1¼" by 4". Draw half a figure (*Picture 1*). Cut out. Open the paper and see four little people holding hands (*Picture 2*).



POTTED PLANTS

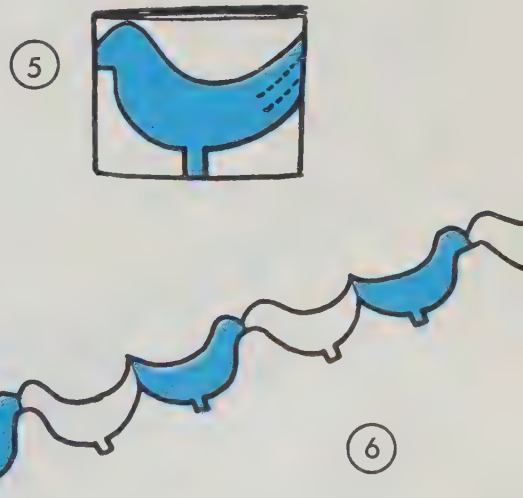
Cut a strip 12" by 2". Fold in half so it measures 6" by 2". Fold three more times to measure ¾" by 2". Draw half of a potted plant (*Picture 3*). Cut out, holding the folded paper together. When (" means inches)

opened, you will have eight plants (*Picture 4*).



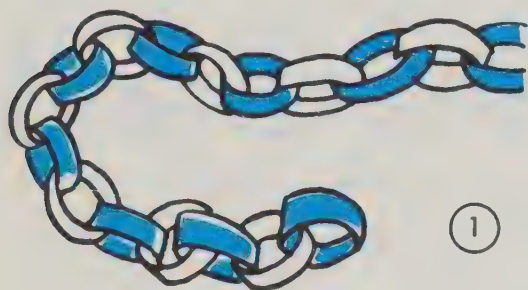
YOUNG BIRDS

Cut a strip of paper 10" long by 2" wide. Fold in half three times until it measures 1¼" by 2". Draw a whole bird on one side of this folded paper (*Picture 5*). Cut out, slash tails as shown by dotted lines. When opened, these are fun to color (*Picture 6*).



PAPER CHAINS

Almost everyone has made colored paper chains, but not many people realize how pretty these are when made from colored magazine pages. Cut pieces of paper $\frac{1}{2}$ " wide and 3" long. Paste one piece into a ring, slip a piece of paper through this ring and paste it into a ring. Add rings until your chain is the length you want (*Picture 1*).



①

FISH

This fish is made from silver paper which comes around camera film or on the inside of cigarette wrappers. Leave the silver paper attached to the plain paper which usually comes with it. Draw a fish and cut him out. Draw the eyes, gills and scales. Fringe his tail and fins as shown. Attach a string hanger (*Picture 2*).



②



③

SNOW MAN

Draw the shape of a snow man on a piece of paper. Cut him out and cover him all over with glue. Apply a thin sheet of cotton to the whole snow man. Trim cotton around the edges. Make the hat, eyes, mouth, buttons, and stick from pieces of paper. Paste these in place and attach a string hanger (*Picture 3*).



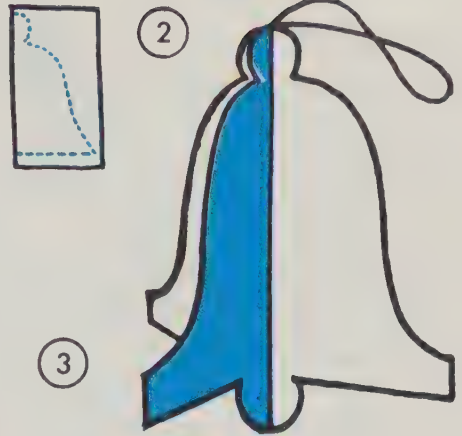
BIRD

Cut a bird from white or colored paper. Cut two small slits (*Picture 1*). Pleat a piece of thin paper 4" by 5" and another piece 3" by 3½". Slip the long paper through the side slot, the short one into back slit. Fan these papers out to form tail and wings.



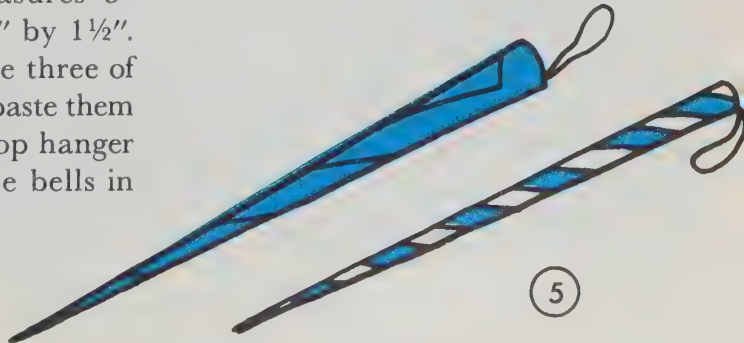
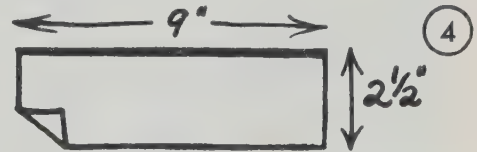
BELL

Fold a paper which measures 3" square in half to measure 3" by 1½". Draw a bell (*Picture 2*). Make three of these bells. Cut them out and paste them together (*Picture 3*). Add a loop hanger at the top. Try some of these bells in silver paper.



ICICLE

Cut a piece of thin paper or cellophane 9" long by 2½" wide. Start rolling at one corner (*Picture 4*). Roll into a long, thin icicle and fasten end with a piece of scotch tape if it does not stay in place by itself. Fasten a thread to the top for a hanger. Try some of these in striped or dotted paper (*Picture 5*).



Circus Tent

YOU WILL NEED:

Corrugated cardboard, 2" wide
White crepe paper
Black construction paper
Red construction paper
Spool wire

The amount of corrugated cardboard and paper you need will depend upon the size you want the circus tent to be.

Form the corrugated cardboard into a ring, and fasten with a paper clip (*Picture 1*).

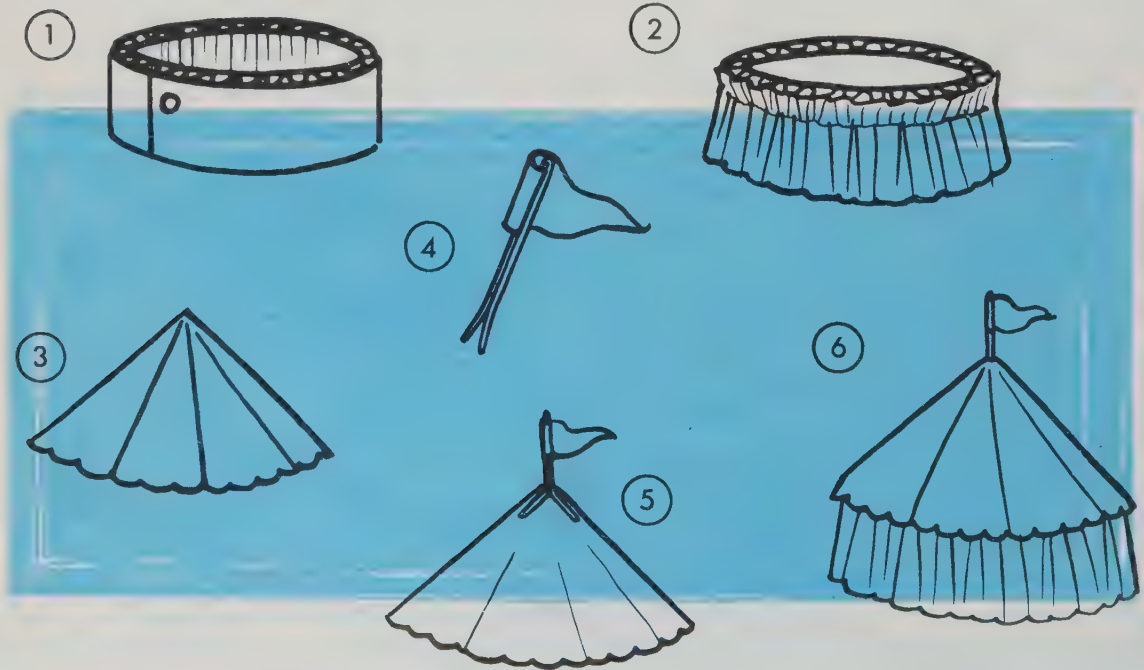
Cut off a long strip of white crepe paper for the tent flap. Gather along one edge, 1" from the edge, until it just fits around the cardboard ring (*Picture 2*). Paste in place.

Make a peaked roof out of the black construction paper. Cut a circle with a diameter a little larger than the diameter of the cardboard ring. Cut from the outside of the circle to the center. Overlap the cut edges to make a peak. With scissors snip around the edges of the roof for decoration (*Picture 3*).

Cut a banner out of red construction paper (*Picture 4*). Roll the straight end around a doubled piece of spool wire and paste in place.

Stick the doubled wire down through the peak of the roof. Bend each of the wires back separately, and fasten them to the inside of the roof with cellophane tape (*Picture 5*).

Glue or paste the roof onto the top of the cardboard ring (*Picture 6*).



Silver Bells

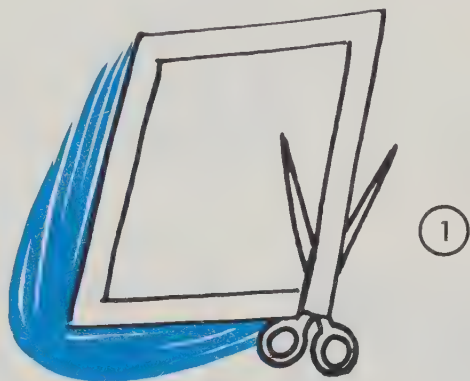
Ordinary paper cups covered with aluminum foil make lovely bells to hang on a Christmas tree or on the door-knockers of your house. Choose very small paper cups for a table tree and larger ones for a big tree that stands on the floor. Cover the outside of the cups with aluminum foil and tuck in the edges. Make a hole through the center of the bottom of the cup and the aluminum covering. Then thread a small silver bell—the kind that tinkles—onto a piece of red or green or gold ribbon. Thread the two ends of the ribbon through the hole you have made in the bottom of the cup. The long ends of the ribbon are for hanging the paper bell to the tree or door-knocker. The small tinkling bell hangs inside, just out of sight. It will tinkle at the slightest touch, and everyone will think your paper bell is made of silver and has a clapper inside swinging against its sides and ringing it.



A Scrapbook

You may be able to find everything you need for making a scrapbook around the house. Use strong brown paper for the pages, two pieces of cardboard for the covers, and ribbon or cord to tie the covers and pages together.

Begin by cutting the covers the size you want the scrapbook to be. Then cut



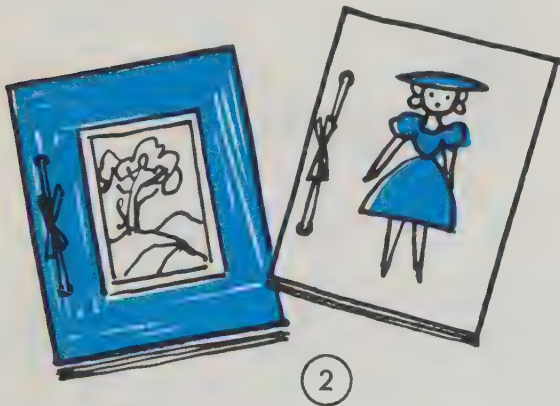
out as many pages as you want in your book. The pages should be a little smaller all around than the covers. But be careful to make all the pages the same size, cutting one first and using that as a pattern for the others (*Picture 1*).

Now make two holes a few inches apart, first in the covers, then in exactly the same position in all the pages. Use a punch if possible. A good way to be sure the holes are all punched in exactly the same place is to use one of the covers as a guide. When you have punched holes in both covers, take one cover and lay it over one of the pages. Make little dots in the center of the hole with a pencil. Then you can put several pages

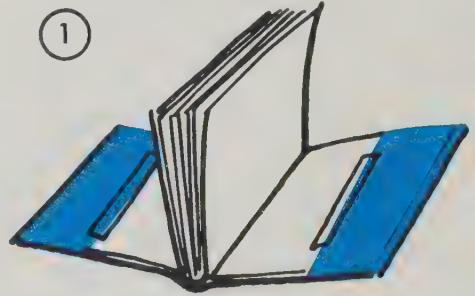
together and punch the holes more quickly. When all the pages are punched, thread the ribbon through them and tie a bow on the front cover.

You can make your scrapbook more attractive by drawing wavy lines along the edges of the front cover in colored crayon or paint. You can paint or crayon "My Scrapbook" on the cover in blue, red and yellow letters.

If you make one scrapbook for pictures and another for paper-dolls, paste a picture on the outside of one, and a paper-doll on the outside of the other (*Picture 2*).



Cover the outside of the book with white wrapping paper, or gift wrapping paper if you like. The width of the paper should be the same as the measurement of the book from top to bottom. It should be long enough to wrap around the book with 1½ inches to spare on each side. Fold this spare 1½ inch flap over the cardboard covers, back and front, and fasten with scotch tape (*Picture 1*).



If you use white wrapping paper you can decorate the front cover and the spine. (The spine is the part that shows when the book stands up on the bookshelf.) Print or paint the name of the book and the author's name, and add any design you think suitable (*Picture 2*).

Make A Stiff Cover For A Pocket Edition

Books that come in paper covers can look nice on your bookshelf, and will last longer, if you give them stiff covers. Here is how you can do it.

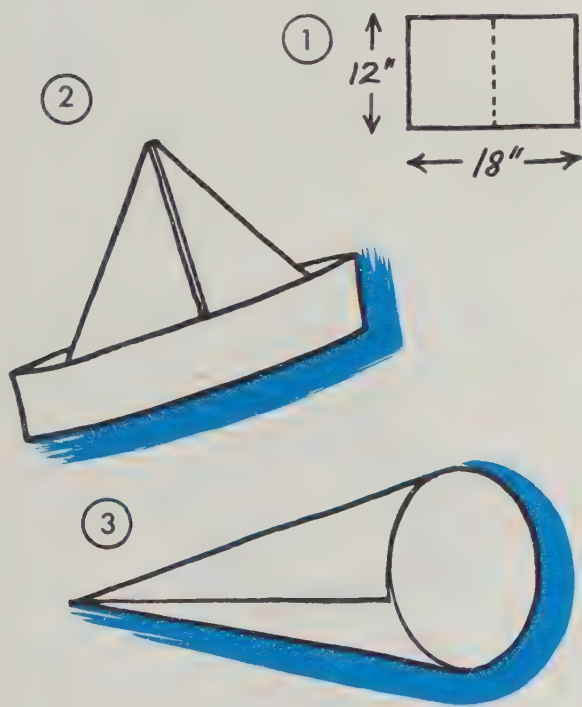
Paste inside the front and back covers of the book pieces of sturdy cardboard the same size as the book.



Paper Hats and Caps

MAKE THESE THREE OUT OF CONSTRUCTION PAPER

A SOLDIER'S CAP—You need a piece of construction paper 12" by 18". Fold it in half (*Picture 1*). Fold down the corners of the double edge to meet in the center (*Picture 2*). Fold the single bottom edges up, one on one side and one on the other. Turn the corners under and paste them in place.



A DUNCE CAP—Form a piece of black construction paper 12" by 18" into a cone (*Picture 3*). Paste the edge down.

You can make this into a clown's hat if you use white paper and paint colored

circles on it. Make a colored pompom and glue it on the top of the hat (*Picture 4*). (See page 341 for directions for making a pompom.)



A TOP HAT—Cut a piece of black construction paper about 6" wide and long enough to make a tube to fit around your head (*Picture 5*). Paste the ends together.

Cut a round piece of the same black paper to fit over one end of this tube and fasten it on with cellophane tape (*Picture 6*).

Cut a ring about 2" wide out of the same black paper to fit around the other end of the tube to form a brim. Fasten this in place with cellophane tape (*Picture 7*).

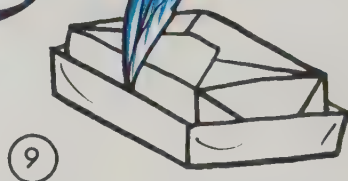
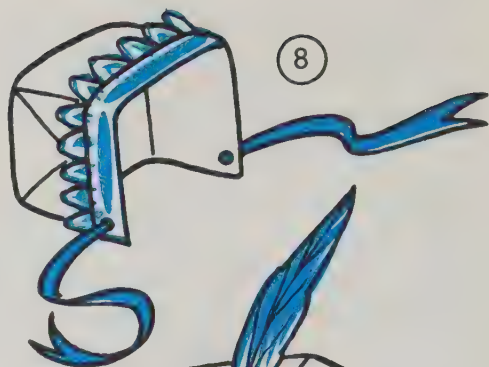
Paste a band of bright colored paper around the brim for a hatband.



MAKE THESE THREE WITH BROWN PAPER BAGS

A GIRL'S BONNET—Cut away one long side of the bag. It will not be needed. Use the bottom of the bag for the back of the bonnet. Fold back the three remaining sides.

Decorate the bonnet by pasting cut-out colored paper around the front. Thread ribbons of the same color through holes at each side to tie under the chin (*Picture 8*).



BOY'S HAT—Cut a brown paper bag in half. Set aside the top half of the bag. You may need it for a beanie cap.

The bottom of the bag is the crown of the boy's hat. Fold up the four sides to make a brim.

Decorate with a long feather stuck into the brim (*Picture 9*).

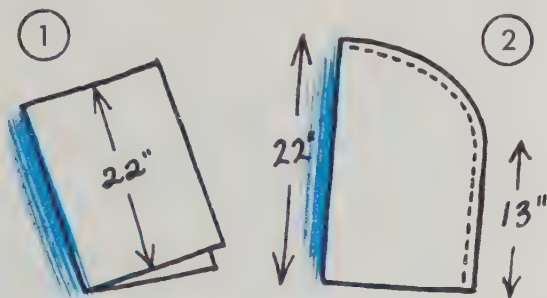


A BEANIE CAP—Use the top half of the brown paper bag. Turn up all the sides of one open end. Gather together the edges of the other open end and tie them with a piece of shoelace or string. You can put a badge in front to finish off the cap, or sew buttons all around the brim (*Picture 10*).

A COWBOY HAT

Take a piece of sand-colored crepe paper about 22" long. You can buy this at the dime store. Fold it in two (*Picture 1*).

Now cut one end of the doubled crepe paper in a curve so that the side where the fold comes is still 22" wide and the opposite side is only 13" (*Picture 2*).

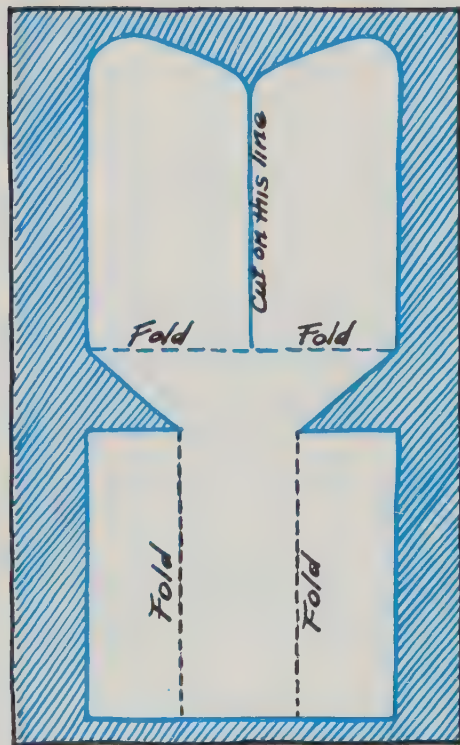


Sew along this curved side and the 13" side, as the dotted lines in the picture show you.

Turn inside out to hide the stitches.

Fold under 2½ inches of the bottom which is left open. This gives you double strength for the brim when you stretch it out around the crown.

A hat-band can be made out of a narrow strip of the crepe paper, pasted on.



Helicopter

YOU WILL NEED:

- Piece of cardboard
- Scissors
- Paper clips or staples
- Pencil
- Ruler

This model helicopter is based on true principles of flight. If you drop it from a height, it will whirl around and around gracefully.

Using your scissors, cut a piece of cardboard to a size 2½ times as long as its width. With your pencil and ruler, copy the pattern shown by the solid

colored lines of the diagram (*Picture 1*). Cut along these colored lines and cut away the shaded areas.

The lower part of the diagram is divided into three parts, shown by the dotted black lines. Fold along these dotted lines, placing the three parts over each other.

Then clip or staple these sides together. The clips will supply the necessary weight to keep your helicopter floating downward properly.

Now bend down the upper section of the helicopter—the part that forms the blades—along the dotted colored lines. These blades must be bent in opposite directions from each other. Your helicopter is now ready for its test flight.

Stand on a staircase, or a balcony, or some high spot. Hold it with its blades on top and just let it go. It will be a pretty sight, as it whirls downward (*Picture 2*).

If your friend makes a helicopter too, you can both release your helicopters at the same time, from the same height. The one whose helicopter reaches the ground *last*, wins the contest.



Sundial

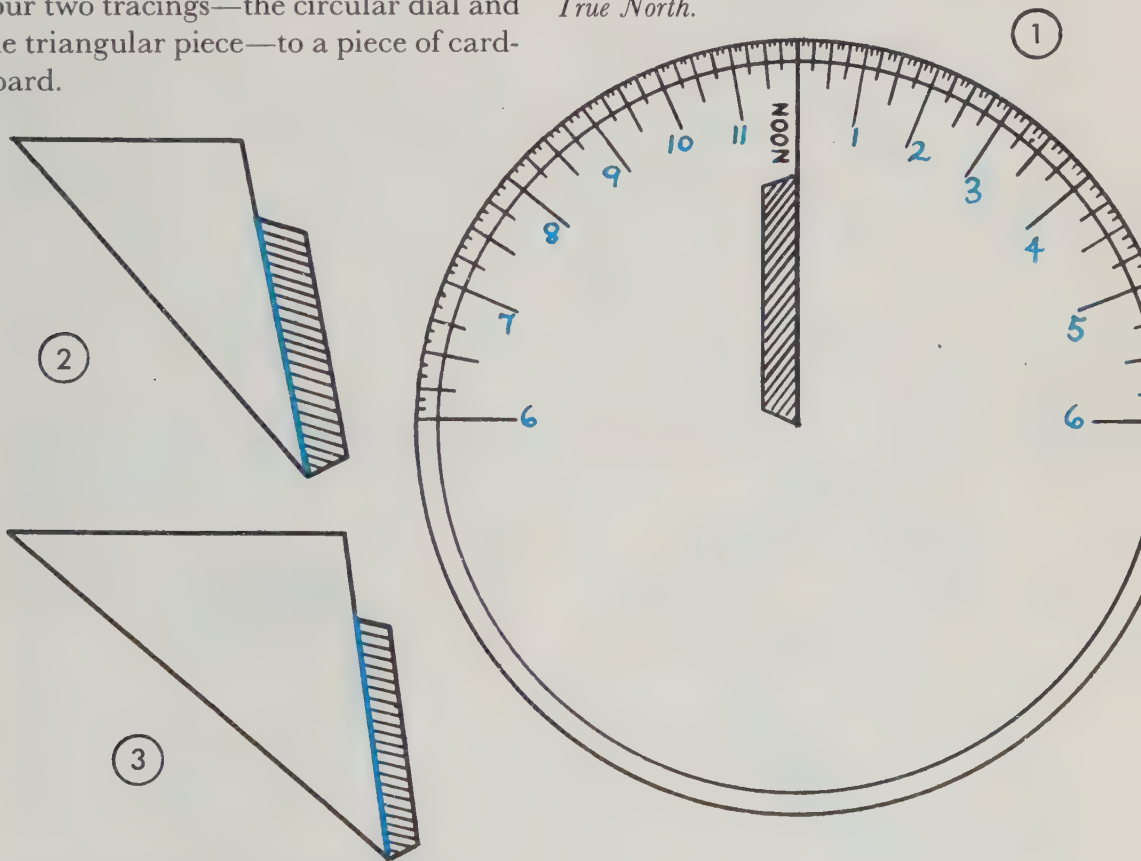
YOU WILL NEED:

Tracing paper
Pencil
Scissors
Glue
Piece of cardboard

Using tracing paper, trace the drawing of a dial (*Picture 1*). Then, if you live in the South, trace the second drawing (*Picture 2*). If you live in the North, trace the third drawing (*Picture 3*). Now glue your two tracings—the circular dial and the triangular piece—to a piece of cardboard.

Now cut along the outlines of these two shapes, cutting clean through the cardboard. You then take the triangular piece and bend it along the colored line (*Pictures 2 and 3*). The shaded area shows the part you paste on to the shaded area of the dial. This piece will now stand at right angles to the dial.

Place your sundial so that the point marked NOON is facing true North. To find out where North is, look at a clock and see what time it is. Then turn the sundial around so that it shows the correct time. Now you have set the dial to *True North*.



One-sided Paper

Here is a nifty trick that will stump everyone.

Cut a piece of paper into a strip about 24" long and 2" wide. You can paste several strips together to make the needed length. After giving one end a



half-turn, paste the ends together.

Now, announce to everyone that you have a magical one-sided paper. They may not believe you, but tell them that you can prove it.

Give the paper to someone. Ask him to trace a pencil line on the surface—starting anywhere—and go clear around the strip. When he does this the pencil will come back to where it started without having crossed over an edge. And the mark will be on “both” sides.

Just try it!

Paper Whistle

YOU WILL NEED:

Piece of paper
Pencil
Scissors

Copy or trace the black outline of *Picture 1* onto a piece of paper.

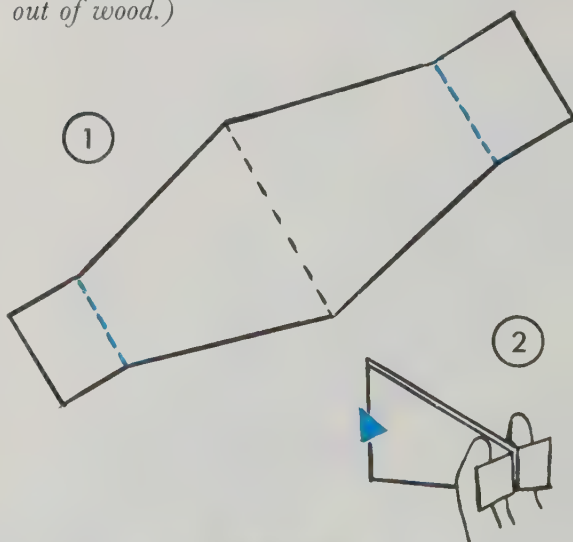
Then cut out the whistle along the outline you have made. Now fold it in

half along the black dotted line (*Picture 1*). Then fold the two ends back along the colored dotted lines. These folds should be in the opposite direction from that of the center fold.

Picture 2 shows the whistle folded properly. Now make a V-shaped cut in the paper, shown by the colored triangle in *Picture 2*. This illustration also shows how to hold your whistle between your fingers when you want to blow it.

Hold the paper loosely. Your whistle will make a loud sound.

(See page 36 for how to make a whistle out of wood.)

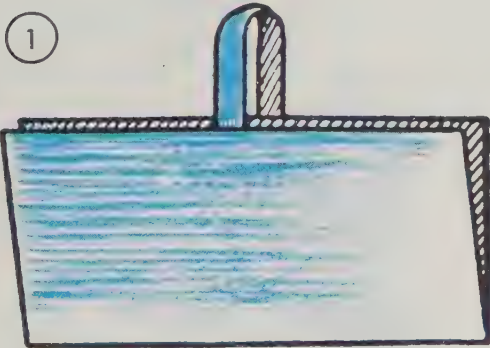


Paper Folding

To fold a square piece of paper in half, take the front edge (the one next to you) and fold it over so that it lies exactly along the back edge. Make a crease at the fold with your thumbnail.

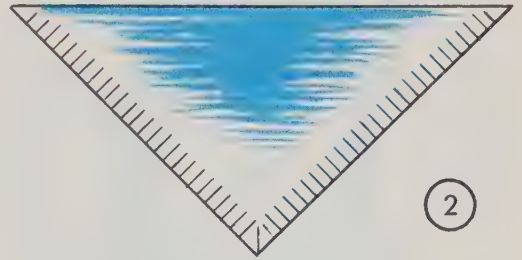
A BASKET—Fold a square piece of strong paper in half. The square can be 5" by 5" or 6" by 6".

Fold two narrow strips of paper and paste them to the back and front of the short ends. This makes a kind of basket. Make a handle for the basket by pasting a narrow strip of paper in a loop from front to back (*Picture 1*).

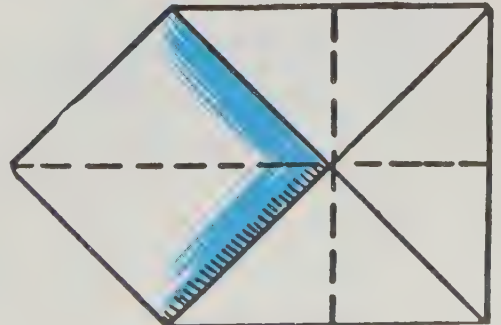
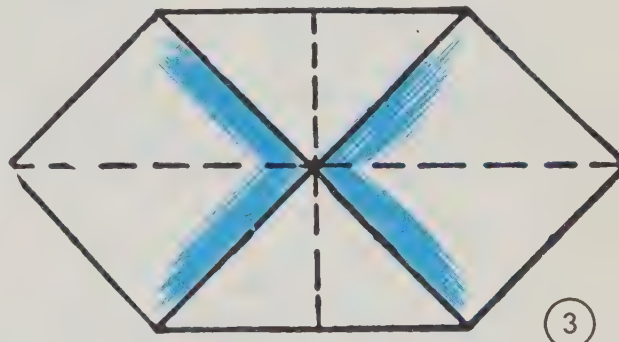


A SHAWL—Lay a square of paper on the table with one corner pointing towards you. Fold the paper so that this corner is exactly over the opposite corner. Now you have a double triangle of paper. It

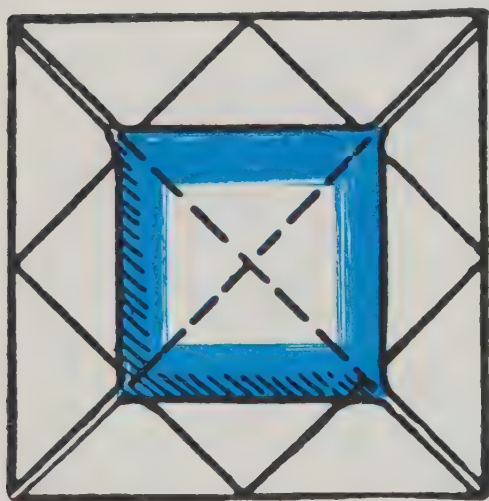
will make a good shawl for a clothespin doll. Snip around the edges to make a fringe (*Picture 2*).



AN ENVELOPE—Fold three corners of a square of paper into the center and you will have an envelope to put a letter into (*Picture 3*).



A GREETING CARD—Fold all four corners of a square of paper into the center. Turn back half the fold in each case. Paste a picture or greeting in the center, and send it to a friend as a Christmas, Birthday, or other greeting card (*Picture 4*).



4

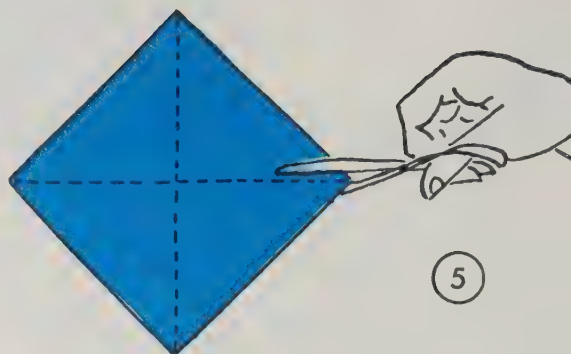
A PINWHEEL—Crease a square of paper the way you did to make a shawl. Then crease it again by folding so that the other opposite corners meet.

Now cut along the four creases up to an inch from the center (*Picture 5*).

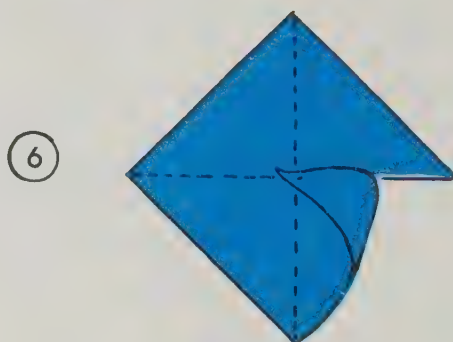
Cut out a little centerpiece and stick a straight pin through it.

Lift every other point of your square paper and fasten these points onto the pin, behind the centerpiece (*Picture 6*).

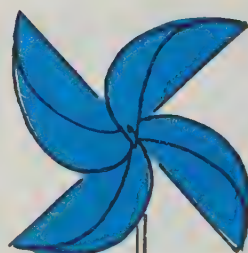
Stick the pin into a rod or dowel, and your pinwheel will turn easily in the wind (*Picture 7*).



5



6



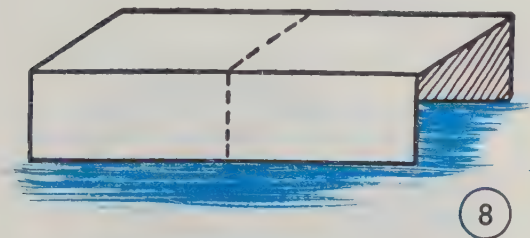
7

A TUNNEL—Fold a square of paper from front to back. Open up. Fold from side to side, making four small squares.

Open up again.

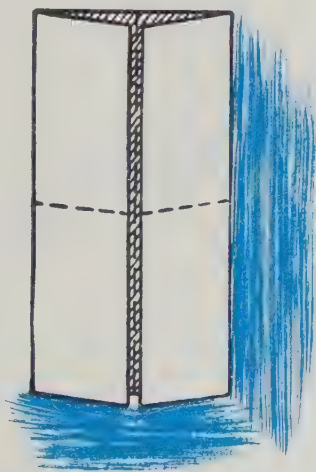
Turn up the edge nearest you to meet the center fold. Turn up the opposite edge to meet the center fold.

Stand your folded paper upside-down and it can be a tunnel (*Picture 8*).

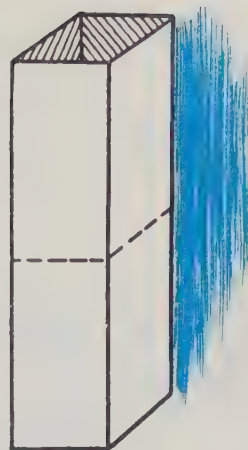


8

A CLOSET—Stand the folded paper on its end and it can be a closet (*Picture 9*).



9

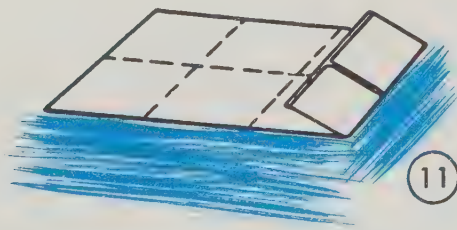


10

A CHIMNEY—Stand the folded paper on its end and crease it again down the middle so that it becomes a square chimney. Fasten the free edges together with scotch tape (*Picture 10*).



A TOBOGGAN—Lay the folded paper on a table, closet door side down. Fold one short side of the doubled paper to the middle. You can slide this down a slope as a toboggan (*Picture 11*).

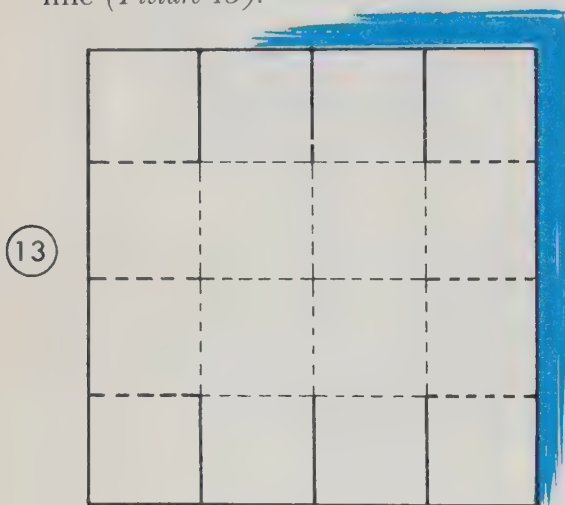


11

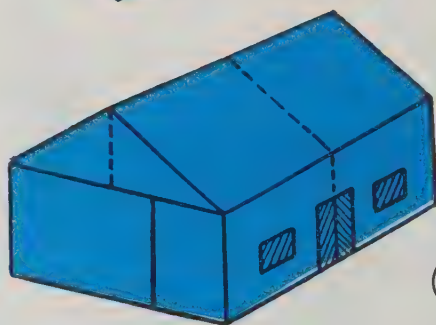
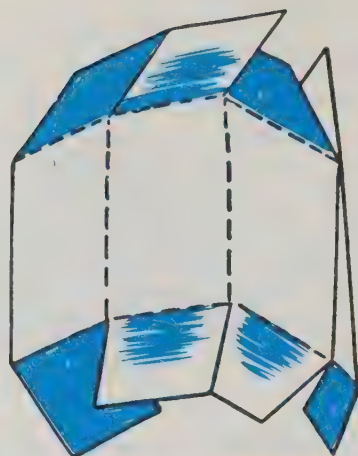
A BRIDGE—Lay the folded paper flat on the table, closet door side down. Fold both short sides to meet in the middle. Turn over and use as a bridge over a stream when you are playing in your sandbox (*Picture 12*).



BARN OR HOUSE—Open up the paper you folded to make a bridge. Cut along the creases marked with a solid black line (*Picture 13*).



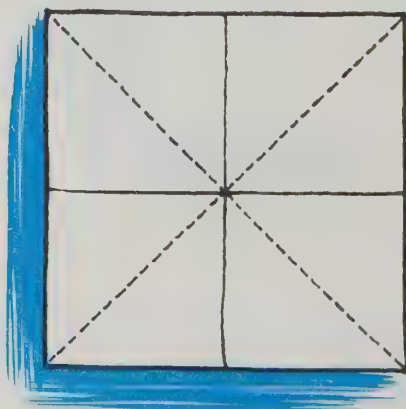
Pinch the middle crease between your fingers (*Picture 14*). Now lap the two cut center squares on each side, one over the other. Then fold the outside cut squares to make straight end walls. Paste together. Draw and cut a door and two windows in one long side (*Picture 15*).



FOLDING BOTH SIDES OF THE PAPER

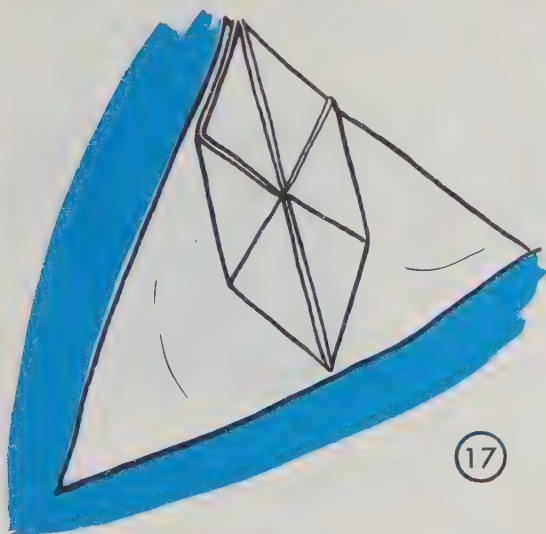
You can make a soldier's cap or a boat you can sail on the water if you fold a square of paper in a special way.

First fold it from corner to opposite corner, diagonally, both ways. Then turn the paper over and fold it from side to side and from top to bottom (*Picture 16*).



Folding the paper in this double way will make it fall naturally into two different shapes, depending on which side you pinch to make the creases.

A SOLDIER'S CAP—Pinch the center of the paper on the side you folded from corner to corner. It will fall into the shape of a triangle, with the point at the top. Turn up the corners at the bottom of the triangle, on the side facing you, so that they meet at the top corner. Then take these two corners you have just made and turn them down to meet at the bottom edge and make a cockade for the cap (*Picture 17*).



(17)

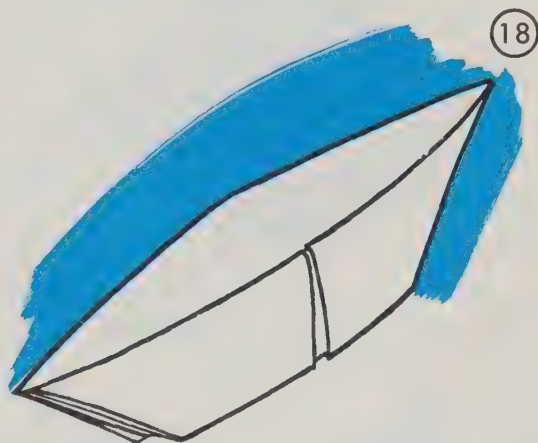
A BOAT—Pinch the center of the paper on the side you folded into small squares. It will fall naturally into a square.

Have the open side up. Fold down the loose triangle facing you, so that the corners meet.

Turn over and fold remainder of the

triangle to meet the corner. But then unfold and fold again only to the center crease. Fold top flap over to bottom.

Turn upside down and open and you have a boat that will stand up. If you coat it with melted wax you will be able to sail it on the water (*Picture 18*).



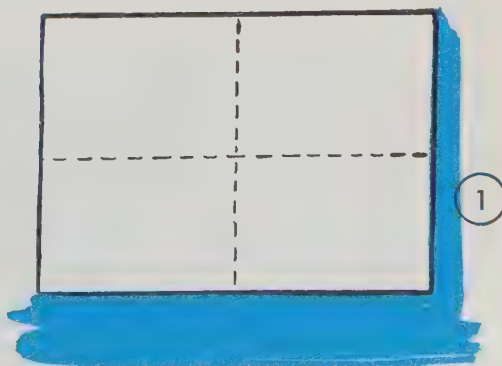
(18)

PAPER THAT POPS

Take a piece of paper $8\frac{1}{2}$ " by 11", the size of an ordinary sheet of typewriter paper.

Fold it in half first lengthwise, then from top to bottom.

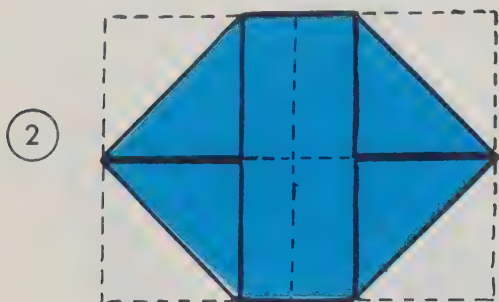
Open up (*Picture 1*).



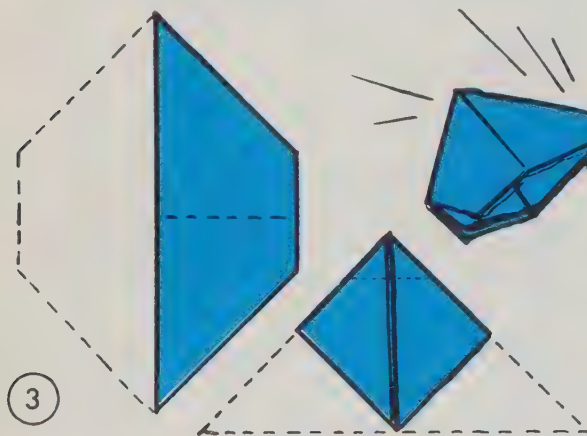
(1)

Fold the two top corners down so that the top edges of the paper meet along the center crease.

Fold the two bottom corners up so that the bottom edges of the paper meet along the center crease (*Picture 2*).

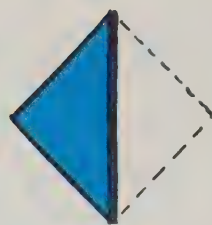


Fold the paper in half from left to right and turn as shown in *Picture 3*.



Now make one more fold. Lay the edge of the right-hand half of the bottom of the paper along the center crease, and do the same with the edge of the left-hand half of the paper. Then fold across, making a solid triangle (*Picture 4*).

Take hold of the square corner, raise it in your hand then drop your hand with a sudden jerk downwards, and you



will hear a popping sound. The more sudden the jerk the louder the pop will be.

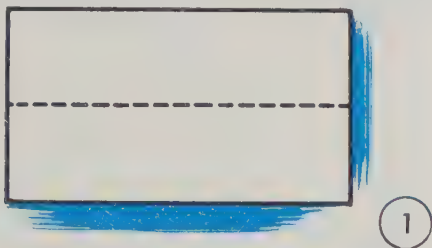


Gliding Airplane

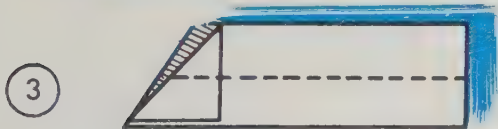
Folding a piece of paper into an airplane to sail through the air is great fun.

There are many ways of folding a piece of paper into a glider but here is the simplest one. Easy to make, this airplane will glide beautifully when thrown into the air. All you need is a sheet of paper and two paper clips.

Fold the sheet of paper in half the long way. The dotted line (*Picture 1*) shows where you fold it.



Picture 2 shows the folded sheet. It also shows a dotted line where you fold back the corner of the paper. Fold back the other corner in just the same way, to match.



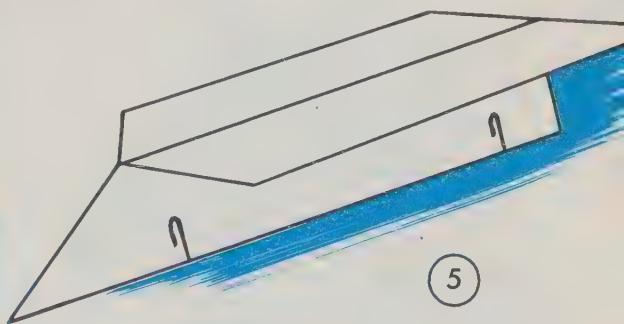
Picture 3 shows both corners folded back. It also shows a dotted line where

you fold down the whole length of the airplane. Be sure you do this with both sides.

Picture 4 shows how the airplane should look when both sides have been folded down, as directed.



Picture 5 shows how you spread the wings of the airplane. Clip two paper clips to the underside to keep the plane together. These clips also give a little weight to the plane so that it will glide smoothly through the air.





How to Make and Dress Paper Dolls



TRACE—DO NOT CUT THE PAGES

Trace this picture of a doll on white cardboard and cut out (*Picture 1*). (See page 400 for *Tracing Directions*.)

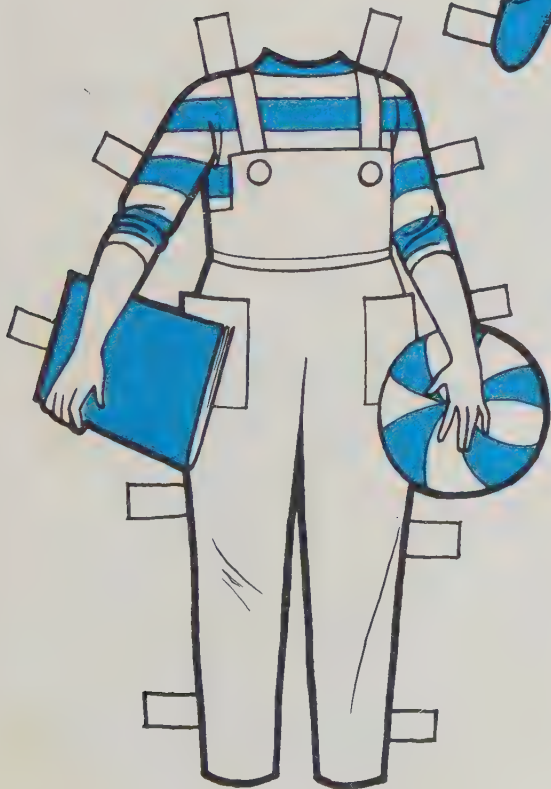
Paint the face, neck, arms, and legs with a watery pink paint, or use crayons. Color the hair yellow or brown.

Bend back the stand along the dotted lines so that the doll will be able to stand up.

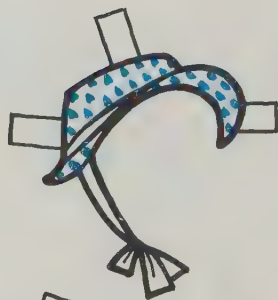
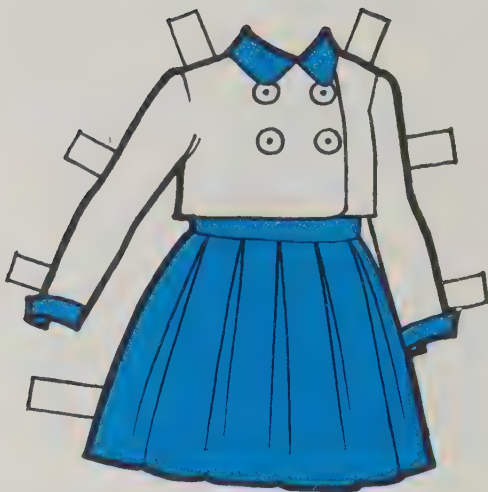
Trace the doll's clothes on these pages and cut them out in fairly strong paper. Don't forget to cut around the tabs that stick out. These are for folding back over the doll to keep her clothes from falling off.

Color the clothes with crayons or water color paint.

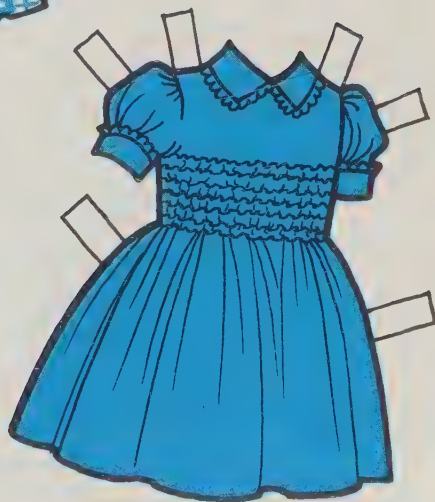
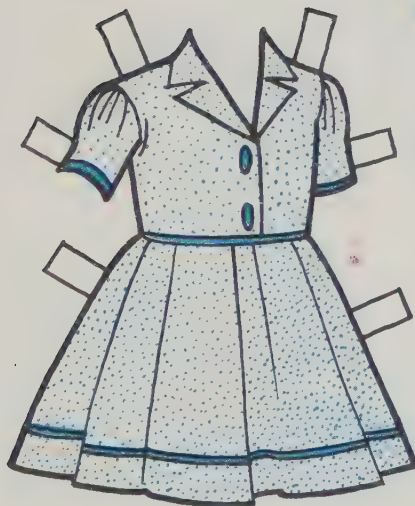
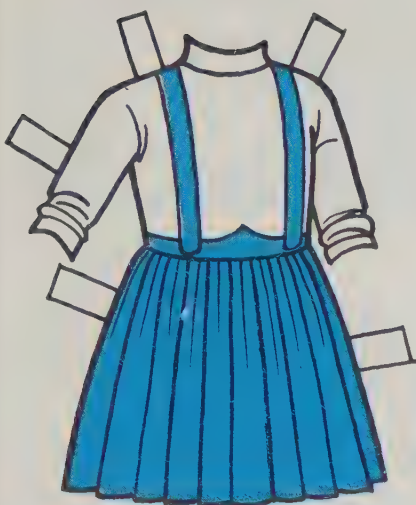




TRACE—DO NOT CUT THE PAGES



TRACE—DO NOT CUT THE PAGES



TRACE—DO NOT CUT THE PAGES



Paper Flowers



Try making a simple paper flower—an old-fashioned rose or a daffodil or tulip. After a little practice you may find you want to go on and make many different and more difficult flowers.

You will find the instructions for making each flower or spray of flowers very simple. Follow them carefully.

Make bouquets of flowers as gifts for your friends, or for centerpieces for your table when you are having a party.

Materials You Will Need

PAPER

Use any paper you may have around the house if it is the right color and not too heavy or too thin. You can even use white paper if you like, and color it with water-color paint or crayons.

If you have no paper that will do for making flowers, buy crepe paper from the dime store. A fold of crepe paper the color of the flowers you want to make and a fold of dark green crepe paper for leaves and stems will do to start with.

WIRE

Buy a spool of fine wire at the dime store if you have none at home. You will need this for flower-stems and for winding around the parts of the flower to hold them together.

PASTE

Use ordinary library paste that comes in tubes or jars for pasting paper edges together.

HOW TO WRAP THE LEAVES AND STEMS

Start wrapping the stem right under the flower and work downward.

Cut a strip of green paper $\frac{3}{4}$ " wide (across the grain if you use crepe paper).

Hold the spool wire stem in your left hand and the strip of paper in your right hand (*Picture 1*).



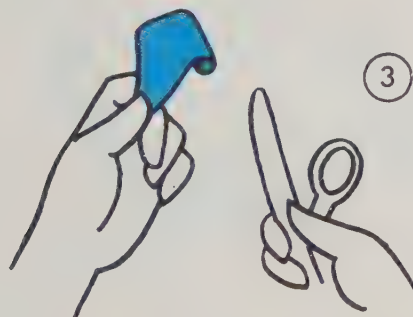
Turn the stem between your fingers and let the paper wrap itself evenly down along the stem. When the stem is completely covered, cut the paper strip, and paste down. You can use florist's tape instead of paper if you like. This has an adhesive on one side and you can get it at any florist's shop.

HOW TO SHAPE PAPER PETALS

Curling the Edges. Hold the petal in your left hand. Hold a pair of blunt open scissors in your right hand, with your right thumb touching the front of the petal and the scissors blade touching the back (*Picture 2*).



Draw the blade, not too heavily, up to the edge of the petal. You will see it curl (*Picture 3*).



HOW TO FLUTE OR RUFFLE THE EDGES OF PETALS

Some flowers have ruffled edges. To get this effect this is what you do:

Take hold of the flower petal with the thumb and forefinger of each hand (*Picture 4*).

Bring the right hand slightly toward you and stretch the paper over the left thumb (*Picture 5*).

Repeat all along the edge of the petal.



HOW TO CUP THE PETALS

Hold the petal with thumb and forefinger of both hands. Gradually stretch the petal, making it wider at the top, or half-way up, or at the base, wherever you want it to have a cup shape (*Picture 6*).

(See page 401 for how to cut and use a pattern).

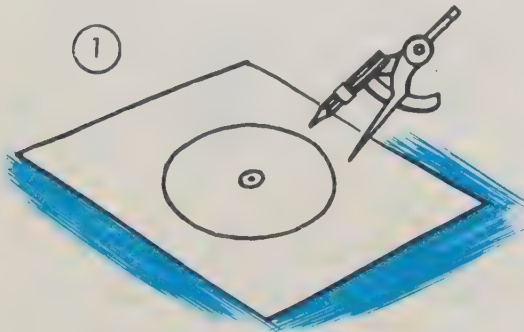


Old-Fashioned Roses

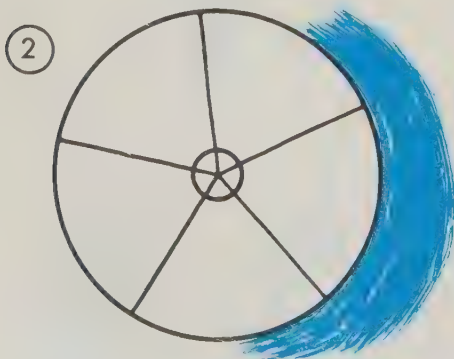
Make patterns of petal and leaf.

PETALS

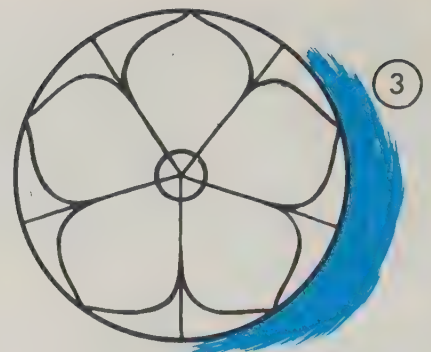
Draw on strong white paper a circle with a radius of $2\frac{1}{2}$ " , using compasses. In the center of this circle draw another



circle with a radius of $\frac{1}{4}$ " (Picture 1). If you do not have compasses, turn a cup or glass upside down and draw a circle around the rim for the big circle. The diameter of the cup or glass should be as near 5" as you can get it. For the small circle use a dime or a button a little smaller than a dime.

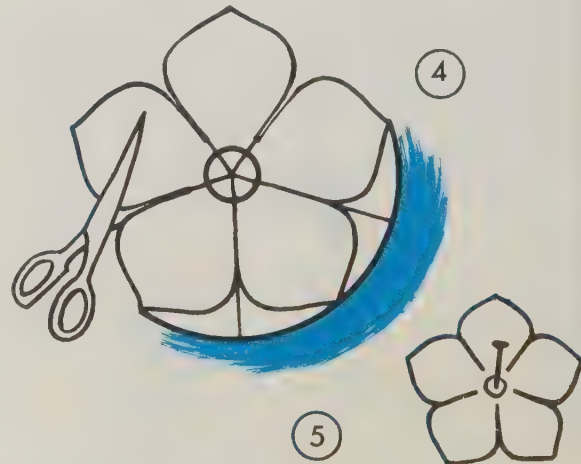


Divide the large circle into 5 parts as nearly equal as possible (Picture 2).



Round out each of the 5 sections to form rose petals (Picture 3).

Cut out, leaving the petals partly joined together (Picture 4).



5



Use this cut-out as a pattern and cut out three times in red or pink paper, or whatever color you want your rose to be. Trim the petals of one of the cut-outs to make it a little smaller than the others. Place them one over the other, the small one on top.

Cut a little round green paper center $\frac{1}{2}$ " in diameter. Snip the edges to make a fringe. Glue or paste it in the center of the rose.

Now stick a pin through the center of the flower (*Picture 5*).

Attach a piece of spool wire about 7" long to the pin for a stem.

LEAVES

Cut out 5 leaves for each leaf spray (*Picture 6*). Wrap a piece of wire 3" long with green crepe paper. Paste one leaf on the end of the wire, and the others in pairs opposite each other along the stem. Make 2 of these leaf sprays for each flower.

Wrap the flower-stem with green crepe paper or green florist's tape. Wrap again, this time wrapping two leaf-sprays to the stem, one inch apart, and on opposite sides of the stem (*Picture 7*).

Daffodils

Make patterns of trumpet-shaped center, petals, and leaves (*Patterns a, b, and c*).

Cut out a yellow center for each flower, using *Pattern a*. Paste the two edges together to form a trumpet shape, and tie at the bottom with thread. Tie this to a spool wire stem about 9" long (*Picture 1*).



Cut out 5 petals in the same color, using *Pattern b*. Tie these, evenly spaced, around the center of the flower (*Picture 2*).



Cut out 2 leaves, using *Pattern c*. Fold the leaves down the middle to make a ridge.

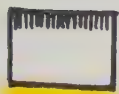
Tie the leaves onto the bottom of the stem with thread or wire.

Cover the stem with green paper or green florist's tape (*Picture 3*).



Tulips

Make patterns of the center of the tulip, the petals, and the leaves (*Patterns a, b, and c*).



(A)



(B)



(C)



(1)

Cut out of yellow or red paper a center for the flower, using *Pattern a*. Make little cuts along the edge where the black lines are drawn. This will give the effect of a fringe. Shape this into a cup and tie it to one end of a 9" wire stem (*Picture 1*).

Use *Pattern b* and cut out 6 petals in yellow or red paper. Tie these, evenly spaced, around the base of the center cup. To do this, place the petals back to front and upside down, around the base of the center cup, tie them, then turn them up around the center cup (*Picture 2*).



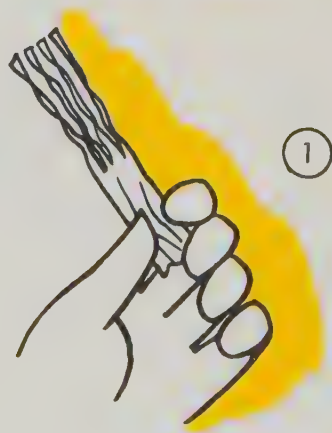
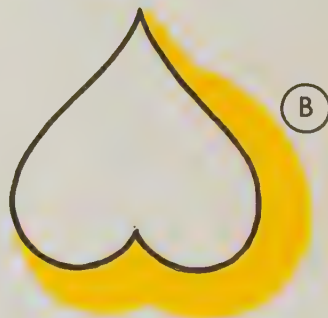
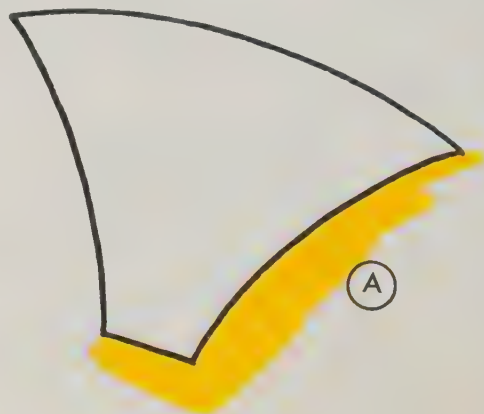
Cut 3 long, spear-shaped leaves out of green paper, using *Pattern c*, and tie these around the stem.

Wrap the stem with green paper or florist's tape (*Picture 3*).



Morning Glory

Make patterns of petal and leaf (*Patterns a and b*).



CENTER OR STAMENS

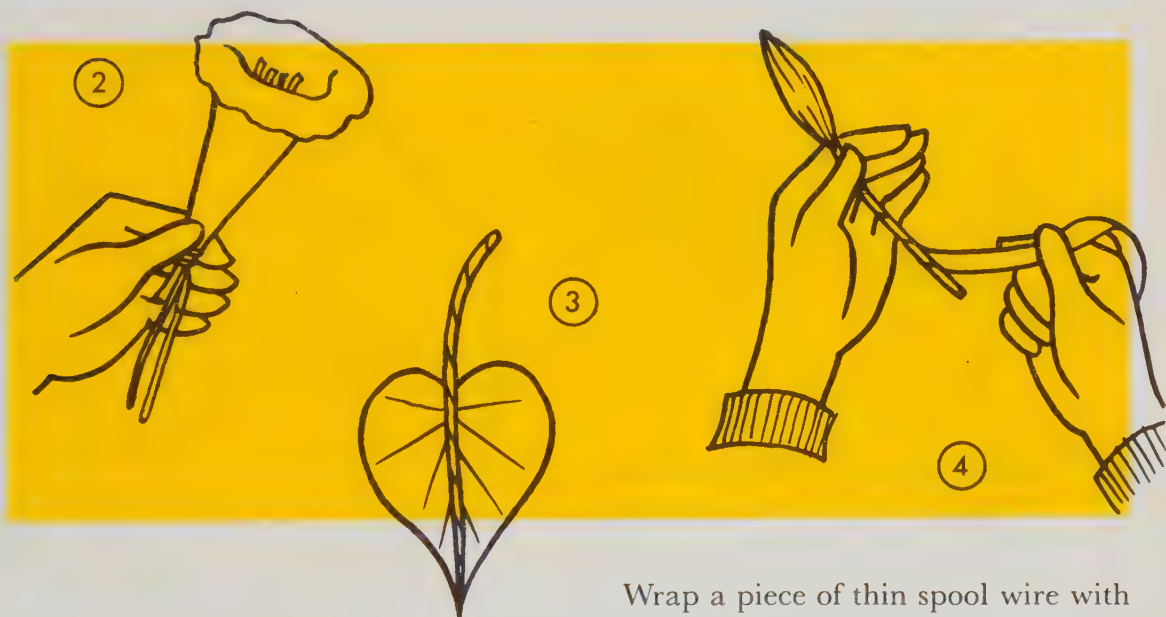
Cut a short strip of white or yellow crepe paper 2" wide, across the grain of the paper. Stretch the crepe paper carefully and evenly. Fold it into 4 thicknesses, and slash with scissors in the direction of the grain to make a fringe 1½" deep. Cut into lengths of 4 fringes to a flower. Roll these fringed ends between your thumb and forefinger to make them slenderer. Gather them into a bunch (*Picture 1*).

with spool wire, leaving two short ends of wire for a flower-stem. Stretch the top edge of the cone slowly and evenly to make it the proper shape (*Picture 2*).

Wrap the stem in green crepe paper and paste the end down.

LEAVES

Cut 5 or 6 leaves from doubled green crepe paper for each spray of flowers, using *Pattern b*. Paste the front and back of the leaves together. Mark the veins lightly, using a steel knitting needle.



PETALS

Morning Glory petals grow in one cone-shaped piece. Using *Pattern a* cut out in blue or white crepe paper one cone for each flower, and paste the ends together.

Drop the fringe into the center of the petal-cone. Fasten together at the base

Wrap a piece of thin spool wire with green crepe paper, and paste it to the back of each leaf to make the big center vein and a short leaf stem (*Picture 3*).

BUDS

Cut a strip of crepe paper the same color as your flowers, 3" wide, and across the grain of the paper.

Cut this strip into 2½" lengths. Make

these into tubes, overlapping a little, and paste. Put a little paste inside the top of the tube and pinch together. Fasten the base with spool wire, leaving a double thickness of wire for the stem.

Wrap the stem around with green crepe paper or green florist's tape (*Picture 4*).

PUTTING THE PARTS OF THE FLOWER TOGETHER

Now put flowers and leaves and buds together on a 12" piece of spool wire. Begin with the 2 buds. Wrap the stems of the buds and the wire stem together



with green crepe paper or green florist's tape. Then wrap a leaf the same way, then a flower, then another leaf, and so on until you have a spray of 5 or 6 flowers and 6 or 7 leaves on your stem (*Picture 5*).

Bend the flowers, leaves, and buds slightly away from the stem so that they look natural.

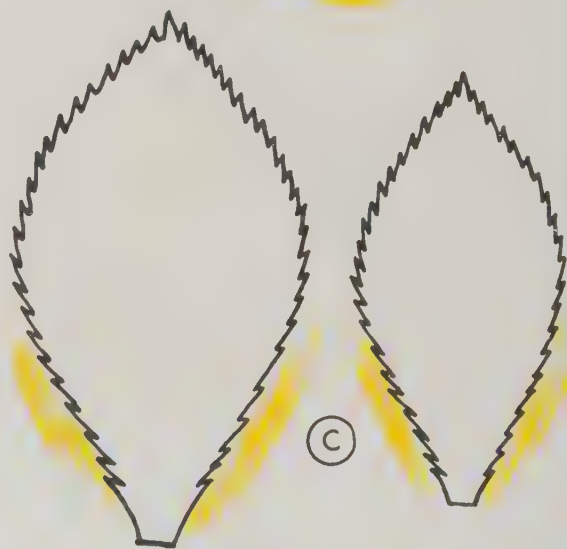
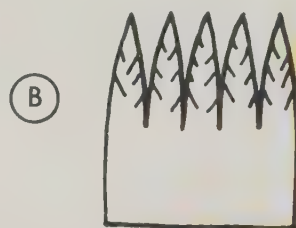
Wild Rose

Trace and cut out patterns of a petal, a calyx, and a leaf (*Patterns a, b, and c*).

Buy rose stamens at the dime store, in bunches. (One bunch of stamens will be enough for 6 roses.)

LEAVES

You can buy ready-made leaves at the dime store, or you can make them yourself.



For each spray of leaves you make, cut 5 or 7 small leaves, using *Pattern c*. Paste thin spool wire along the middle of the back of each leaf, leaving a short end to attach to the stem. Fasten one leaf to the end of a 3" wire stem, and two or three pairs of leaves opposite each other along the stem, wrapping

them to the stem with crepe paper or florist's tape. Make three of these sprays of leaves for each flower.

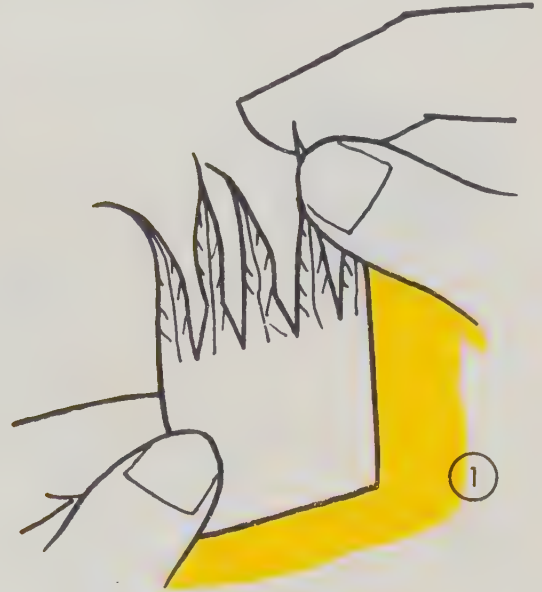


PETALS

Use *Pattern a* to cut 5 petals. Curl the top edge of each petal outwards, and cup very slightly about half way down. (See page 151 for how to curl and cup petals.)

CALYX

Use *Pattern b* and cut one calyx for each flower. Roll the tips of the fringe between your finger and thumb so that they won't look stiff (*Picture 1*).



CENTER

Make a ball of cotton $\frac{1}{4}$ " across and cover it with light green crepe paper. Tie the ends of the paper under the ball with thread. Surround the ball with rose stamens. Bend the stamens inwards towards the center and fasten them to the crepe paper gathered together under the ball, using spool wire (*Picture 2*).

PUTTING THE PARTS OF THE FLOWER TOGETHER

Arrange the 5 petals around the center evenly. Fasten them to an 8" piece of spool wire.

Paste the calyx around the base of the petals.

Wrap the stem with green crepe paper. Wrap it again, this time fastening the 3 sprays of leaves in place on opposite sides of the stem and about 2" apart.

Anemones

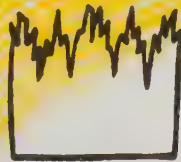
Make patterns of the petal, the calyx, and the leaf of the anemone (*Patterns a, b, and c*).



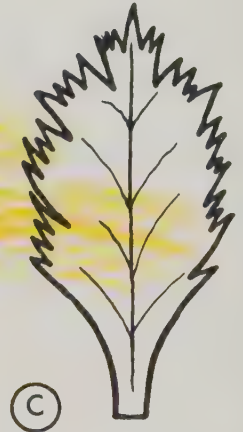
2



A



B



C

FLOWER CENTER

Make the flower center first. Roll a piece of cotton or crepe paper into a ball about $\frac{1}{2}$ " across. Stretch black crepe paper over the ball, and pinch together at the base. Fasten with spool wire. Flatten by pressing the top down (*Picture 1*).



1



Cut a strip of black crepe paper, 1½" wide, across the grain. Stretch the paper evenly. Fold until you have 8 thicknesses. Cut into a very fine fringe 1½" deep. Cut into ½" lengths. Roll each fringed edge between your fingers to make it as fine as possible.

Gather the fringe all around the ball evenly. Curl the ends of the fringe inwards (*Picture 2*).



PUTTING THE PARTS OF THE FLOWER TOGETHER

Space 4 petals evenly around each center, cupped (or hollowed) side up, and paste each petal separately. Space the remaining petals evenly around these. Each petal you add should go in between 2 petals in the circle before it. Fasten with spool wire (*Picture 3*).

Attach a stem of doubled spool wire 9" long to the flower.

Paste the calyx below the flower with the points well up on the backs of the petals (*Picture 4*).

Wrap the stem with green crepe paper or florist's tape.

Wrap again, this time adding the leaves on opposite sides of the stem, the first one 3" below the flower, and from then on 1" apart (*Picture 5*).

PETALS

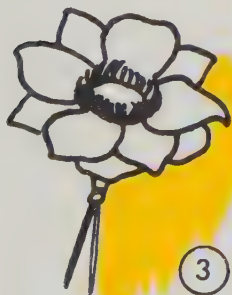
Cut 10 petals, using *Pattern a*. Curl the top edges lightly, and cup near the base. (See page 151 for how to curl and cup petals.)

CALYX

This is the small circle of green leaves or sepals just below the circle of petals. Cut one out of green paper for each flower, using *Pattern b*.

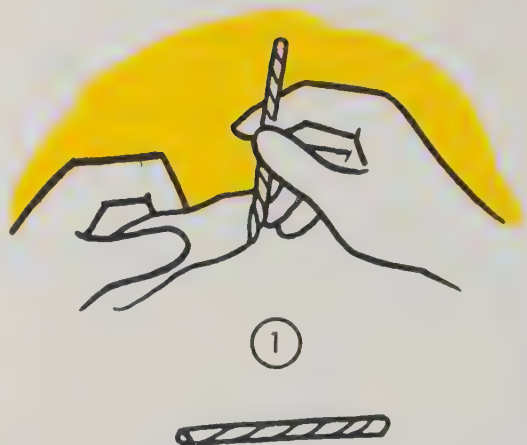
LEAVES

Cut 4 or 5 leaves for each flower, using *Pattern c*. Mark the veins very lightly with a steel knitting needle.



Pansies

Cut patterns of pansy petals (2 sizes), calyx, leaf and small color sections (*Patterns a, b, c, d and e.*)



PETALS

Use *Patterns a and b* to cut out 5 petals in crepe paper. Cut the 2 top petals and the 2 side petals from *Pattern a*, and the bottom petal from *Pattern b*. You can make them all the same color—purple, yellow, orchid, or white—or you can make the 2 top petals a lighter shade than the 3 lower petals. Or you can make 3 yellow and 2 purple petals, or 3 purple and 2 yellow.

For the small color section (*Pattern e*) that goes at the base of each of the 3 lower petals use darker tints of the same color as your petals, or a different color that blends with it. For example, when the petals are orchid or purple, the small color sections can be yellow. When the petals are yellow, the small color sections can be brown. When the petals are white, the small color sections can be yellow. Paste these color sections on the 2 side petals and on the lower petal

CENTERS

Cut a strip of amber-colored or yellow crepe paper $\frac{3}{4}$ " wide, across the grain of the paper. Twist between the thumb and forefinger to make a tight roll. Cut into 1" lengths for each flower (*Picture 1*).

(Picture 2). They can be colored paper or white paper colored with water-color paint put on with a very fine brush.

Make tiny flutings on the edges of all the petals. (See page 151 for how to flute the edges of petals.)



PUTTING THE PARTS OF THE FLOWER TOGETHER

Arrange the 5 petals around one end of the center roll. Paste the bottom petal in place, then the 2 side petals, then the 2 top petals. Bind them to the center roll with spool wire, leaving 2 ends of spool wire long enough for a flower stem.

Wrap the flower stem with green crepe paper or green florist's tape. Place your leaves about 3" from the bottom of the stem and wrap again.

Bend the flower slightly on the stem and flatten out the petals to make them look natural.

Butterflies and Ladybirds

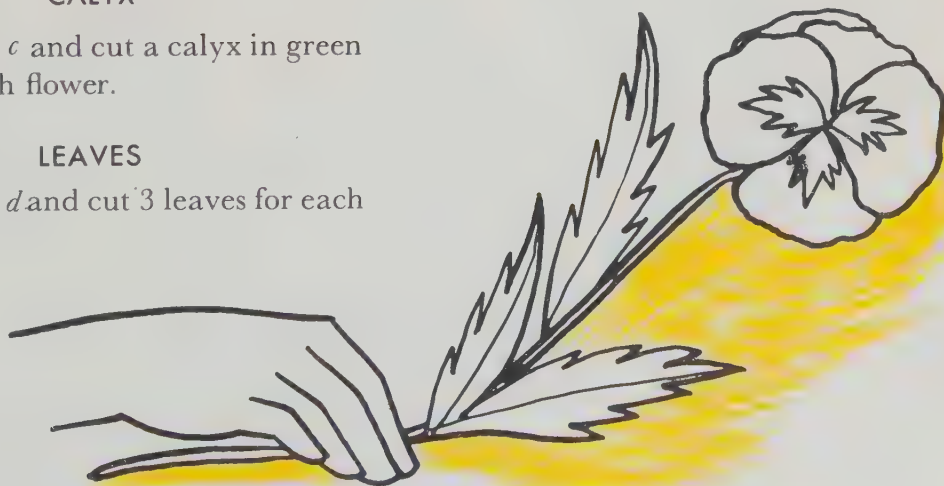
If you would like to have bright-colored butterflies or ladybirds hovering over your flowers, you can make them quite easily. (See page 88.)

CALYX

Use *Pattern c* and cut a calyx in green paper for each flower.

LEAVES

Use *Pattern d* and cut 3 leaves for each flower.





Animal Companions



If you already have a dog or a cat or some other animal in your home, you know two things: you know your pet gives you a great deal of happiness, and you know that sometimes it causes you some trouble. These pages are written in the hope of making you and your pet even happier companions, and to help solve any difficulties you may have.

An animal that can be kept out of doors keeps healthy so long as it has enough good food and water, and a comfortable place to sleep. Living outdoors is natural to most animals. They seem to know instinctively how to keep well in the open air. Indoor animals need greater care, so most of the suggestions you will find here are about them.

Here is something useful to know about nearly all pets: they become frightened if you approach them from above, and especially if you take them by surprise. So speak in a gentle tone to any animal before you touch him. And when you want to touch him, warn him by putting out your hand, palm up, low enough for him to see there is nothing in it to harm him.

And here is another hint: each kind of animal has a nature of its own. Find out as much as you can about your dog, cat, bird, or whatever pet you may have.

You will soon understand that it is a dog's nature to want to please his master, but that a cat's nature makes her decide for herself what she will do and when she will do it. Birds, rabbits, hamsters—any and all of your animal companions—want to be themselves. Nothing you can do will make them anything else.

Dogs

It is usually a great moment in a boy's or a girl's life when a dog first arrives in the home, especially if it is a puppy. And, if possible, it should be a puppy. As he grows up you will like to think yours is the only home your dog has ever known. And your puppy will feel your home is where he belongs. You and your dog will both be the happier for it, and a puppy with nothing to unlearn is easier to train than a full-grown dog.

When your puppy arrives, see that you have his bed ready for him. The bed should be the right size, small enough for his body heat to keep him warm. (*See page 305 for how to make a dog's bed.*)

He will probably cry during the first night in his new home, and that won't be because he's a bad puppy, but because he's missing his mother and

brothers and sisters. So let him sleep beside your bed for a night or two.

A puppy is so much fun that you will want to play with him right away. But be careful. He is just a baby. If he has traveled any distance he will be tired, and anyway it will tire him to be living in strange surroundings. So, even if he wants to play remember he is a dog, and a dog will want to play if you want him to. Don't let him play too much. You must think for him. Give him plenty of rest for a day or two. Don't show him off to your friends too soon or you may endanger his health.

FEEDING A PUPPY

The amount of food a puppy needs depends upon his size. A small breed is fully grown in a year. A large breed grows until he is about 18 months old. From the age of 5 or 6 months feed your dog four meals a day, as follows:

Breakfast:	Warm milk and cereal (cooked) or dog biscuit. An egg once or twice a week.
Lunch:	Ground beef or horse-meat, with a sprinkling of salt. Or a canned food



recommended by your vet.

Mid-afternoon: Same as breakfast. Or you can substitute broth for milk.

Evening: Same as lunch.

If the meat has no fat, add a little in the form of meat drippings. Uncooked meat is best, but for a change cook it a little sometimes. A house dog will need added vitamins and bone meal. You can get these at pet stores. Your vet will advise you what to buy and how often to feed these extras.

As your dog grows, you can leave out the afternoon meal and later on leave out the lunch. By the time he is full-grown he will need only two meals a day. Breakfast should be a light meal. The main meal of the day is dinner, late in the afternoon or early evening. You can give him vegetables with his meat dinner. And it is a good idea to feed him kidneys, lungs, tripe and hearts every now and then. These are inexpensive and your dog will enjoy them.

Always have a clean bowl of fresh water next to your dog's feeding-dish.

TRAINING A PUPPY

This is where you will need to understand and help your dog most of all. Start off the right way by spreading newspapers at certain corners of the floor, away from his feeding-dish. After each meal and after each nap take him

to the paper. When he sprinkles in the wrong place take him *at once* to the paper and make him understand that he has made a mistake. If you do not show him at once he will not know what his mistake was. Pet him when he uses the paper. Scold him when he doesn't. But never beat him. He is learning. He is trying to find out what it is you want him to do, and that takes a little time.

PUPPIES WHO CHEW UP SHOES AND FURNITURE

Puppies need something to chew, especially when they are cutting their second teeth. Give your puppy an old shoe or a tough biscuit, or a leather or hard rubber toy of his own. After you have scolded him for chewing the furniture, pat him and call him a good dog for chewing his own toy.

KEEPING YOUR DOG CLEAN

Brush and comb your dog regularly, talking to him as you do it. He will not need bathing except if he has managed to get too dirty to be allowed in the house. If this happens, be careful to keep the soap out of his eyes and ears. Give him a chance to shake himself afterwards, and let him run to get warm again.

YOUR DOG'S HEALTH

If your dog has not been inoculated against rabies, distemper and hepatitis, take him to the vet and arrange to have this done at the right time.

Have him wormed if the vet decides he needs it. It is safer to let the vet do the worming than to risk giving your dog the wrong kind of medicine or the wrong dose.

A young puppy will sometimes need to have his eyes wiped, very gently, with cotton dipped in a solution of warm water and boric acid.

HOW TO MAKE YOUR DOG POPULAR WITH OTHER PEOPLE

Guests will like your dog much better if he stays on the ground and doesn't jump all over them. And neighbors will like him better if he doesn't chase their cats and dig up or sprinkle their gardens. You can make him behave well to your friends and neighbors by making him behave well at home.

The main thing to keep in mind about teaching your dog to behave himself is that you must scold him for doing the wrong thing, and praise and reward him for doing what you want him to do. Try to use one tone of voice for scolding and another tone for praising. He will very soon give you no reason to scold him. Don't ever use a harsh, angry tone, even for scolding, for it will only frighten your dog.

Choose a suitable name for your dog and always call him by it. Use the same words for commands: "Sit!" "Lie down!" "Heel!" "Stop!"

When you take your dog out for a walk, whether he is on a leash or not, train him to obey the commands "Stop!"

and "Go!" or "Okay!" at street crossings. In time he will understand that you are telling him to watch out for trucks and automobiles.

With a dog of your own, well-fed, obedient, and happy, you will always have a good companion.

Cats

People who have never had a cat as a companion will often tell you that cats are not friendly. That is not really so. Usually such people are thinking of the way a dog looks up, waiting to see what is wanted of him, ready to jump as soon as he knows. A cat, these people think, doesn't care a bit about pleasing you. But that is not really true either.

A cat is a cat. She doesn't pretend to be a dog or want to be one. She just sits and thinks her own thoughts. If she wants to she will jump into your lap and ask to be petted, but she will stay there only as long as she likes. She will catch mice whether she is hungry or not, because hunting is natural to her. But if she likes the home you have given her, a cat will show her gratitude to you, even her love for you, by letting you see the mice that will no longer be a pest in the house because she has caught them. Her instinct tells her that you are sure to be pleased.

A cat has other ways of showing her affection. Many times a cat wants to be close to you and is disappointed when you get up while she is on your lap. So she will climb up and curl herself around

your neck. If you happen to be wearing a soft woolly cap she will even climb onto the top of your head and curl up there. Just leave cats alone. They love their freedom and they need to run their lives in their own way.

If you start by having a kitten for a pet, wait until the mother has fed and trained her for at least three months. A mother cat not only has the best possible milk for her kittens, but she brings them up well. Watch, if you get a chance, how she teaches them to clean themselves, how to hunt, how to climb trees to avoid danger. She will do these things over and over again to show her kittens the way and to encourage them.

FEEDING YOUR CAT

By the time your kitten comes to your home she should know how to drink milk from a saucer. You must feed her

4 times a day until she is about six months old. From then on two meals a day will be enough if you see that the main meal in the evening is large enough. Cats also need fresh water, though they do not drink as much of it as dogs because they drink more milk.

Cats can eat chopped beef or horse-meat, and they like the insides of animals—heart, tripe, brains, and lungs. They like eggs too, and cooked fish, especially fish-heads. But if your cat lives indoors do not feed her too much fish because the odor of fish is unpleasant and will hang about in the air. An indoor cat should also have a few drops of the vitamin called viosterol every day. Your pet shop will sell it to you.

Many people add a little olive oil to a cat's food now and then. The oil helps to get rid of fur-balls that form in the



intestines of the cat from the fur she is constantly licking.

Add a *little* salt to the food, too.

Treat your kitten very gently when she first arrives. Take her to her own little basket or bed, in a quiet corner, and let her stay there if she wants to. But she will probably want to wander about on her own to get to know something about her new surroundings. As soon as she begins to feel at home, you can take her in your arms as much as you like. She will miss her mother and will need to be loved. When you stroke her, be careful to stroke the way the fur grows, not against it.

Don't feed her too soon after her arrival. She will have too much to learn to be able to digest much food. For, right away, as soon as she knows her way about the house, she will have to be trained to use the pan regularly. This will be much easier for her than for a puppy, but you must have patience. Keep a pan half-filled with torn-up newspaper in one place always, and she will soon understand what it is there for. But the pan must be emptied each time, and must have clean paper in it or the kitten may not go back to it, and then your training will have to start all over again from the beginning.

BE FAIR TO YOUR CAT

Being fair to a cat means not scolding her for doing things she has to do. For example, she must sharpen her claws. So, to keep her from sharpening

them on the furniture, give her a block of wood to sharpen them on, or a piece of strong burlap nailed to the kitchen wall. That is a good way of saving a lot of annoyance to your family.

Another thing a cat can't help is shedding fur on your clothes. Instead of being angry and pushing her off your lap, make a practice of brushing and combing your cat's fur every day. This kind of regular grooming will bring out most of the loose fur that would otherwise come off on your clothes or on the living-room chair cushions.

Hunting birds is another of those disagreeable habits cats have. They can't help hunting birds, but nobody likes to see a beautiful bird struggling for life in a cat's mouth. This is something you can deal with, though. Bell your cat. The sound of the bell will always give birds plenty of warning and they will be able to fly away before the cat comes near enough to catch them.

Those who are willing to let a cat be a cat will always be rewarded. They will find great pleasure in watching her beautiful and graceful movements, noticing how proud, how independent she is, and how true and affectionate a friend she can be when she knows and trusts you.

Rabbits

If you live in a city apartment, rabbits are not for you. They have to live in wooden hutches, with wire-mesh floors for the litter to fall through. They have



to be fed and watered regularly, and the hutches must be thoroughly scrubbed once a week. And you will need at least two hutches, one for the female (the doe) and one for the male (the buck) even at the start. So keep your rabbit-hutches in the yard, if you have one, and fence in a small part of the yard for the rabbits to run in. If you have no yard an airy cellar will do almost as well.

Some boys and girls are satisfied to keep just one rabbit as a pet. But rabbits, like most other animals, prefer company. And besides, if you want to raise baby rabbits, you will need a buck and a doe. You can have as many as ten does and only one buck for breeding purposes. If you have more than one doe, each should have its own separate hutch.

WHERE TO GET RABBITS

You can spend quite a lot of money if you want rabbits with pedigrees. The names of some of these are *Flemish giants*, *chinchilla*, *beveren*, *silver*, *angora*, *New Zealand*. These specially bred rabbits are sold for their fur or to other rabbit fanciers.

But if you want rabbits simply as companions, you need not pay more than one or two dollars each for them. Pet shops have them, or you may get one from a neighbor who raises them.

A word of warning—wild rabbits and wild hares will not live caged up, so do not try to make pets of them.

Some hares, like *Flemish giants*, and *New Zealand reds*, have become domesticated, and their fur is valuable. You can tell a hare from a rabbit by its longer

ears and longer legs. A Jack rabbit is really a hare.

TAKING YOUR RABBITS HOME

The way to lift a rabbit is to hold it with your left hand by grasping some loose skin on its back. Then support its weight by placing your right hand under its rump, so that its head goes under your left arm. If you do this, the rabbit can not scratch you, and you will not injure it. Never lift a rabbit by its ears or you will almost certainly hurt it and possibly injure it internally.

Place the rabbit in a box that has holes in the sides for ventilation, and carry the box carefully.

TAKING CARE OF YOUR RABBITS

If you love your rabbits, the best way to show it is to keep their hutches clean and to feed and water them properly. Cleanliness is especially important because dirt in the hutches means dirty food and water, and dirty food and water mean disease. The hutches must not only be cleaned out every day, but all uneaten food must be taken out and all water thrown out before being replaced with fresh food and water. And once a week the hutches must be scrubbed with soap and water. After scrubbing rinse with clear water to which you add a few tablespoons of *Clorox*. Feeding-troughs and drinking-pans must also be washed every day and scalded with boiling water about once a week.

FOOD FOR RABBITS

Feed your rabbits twice a day, putting the food into a feeding-box or hopper. The evening meal should be the big one.

Alfalfa hay or clover hay, chopped into finger length pieces, and grain should form the main part of a rabbit's food. You buy these at a feed store. Or you can give your rabbits their hay and grain in the form of "all-in-one" pellets. These pellets contain all ingredients necessary to keep rabbits healthy. An ordinary animal will eat about 2 oz. of pellets twice a day. A doe that is feeding her young ones needs 2½ oz. twice a day for the first 3 weeks, and after that two to three times as much up to the time the young ones are able to feed themselves.

Scraps from the table (except meat) are good if they are in fresh condition. And sweet milk is excellent for rabbits that don't seem to be eating enough. Buy a cake of rock salt at the pet shop and hang it up inside the hutch for the rabbits to lick when they need salt.

Do not let your rabbit nibble lettuce or other vegetable leaves all the time. Too much of such a diet will make him ill.

QUANTITY OF FOOD

A good way to judge whether you are feeding your rabbits too much or too little is to notice whether they have any food left in the hopper after feeding for about twenty minutes. Increase the amount if the hopper empties sooner

than that, and decrease the amount if food is left over.

BREEDING TIME

In about a month after mating, a doe will “kindle”, which means she will give birth to her young. When you see her pick soft fur from her breast and try to make a nest of it in a corner of the hutch, help her. Give her a nest of straw.

Be very careful not to disturb the doe at this time. Feed and water her well, but do not touch her for three days after her babies are born, unless you know just how to look into the nest quickly without disturbing her.

Sometimes a doe will not or cannot nurse the baby rabbits. If she does not do so after three days, you will have to take them away from her and feed them yourself. Give them warmed milk and water two or three times a day. You will have to use a medicine-dropper for about ten days, but after that they will be able to drink milk from a saucer, like

kittens. Add a little lactose from the drug-store to the warmed milk and water, and a tablespoonful of prune juice to a quart of the milk and water. This will give the young rabbits all the nourishment they need at this time.

You will get far more rabbits than you want unless you are careful. Don't rear more than six baby-rabbits from one doe. And don't mate the doe until she is about eight months old. Then let her have only three litters a year. She will go on breeding until she is four years old.

Canaries

Canaries belong to the Finch family and they came originally from the Canary Islands off the Northwest coast of Africa. But they have been bred as pets so long that now they are quite domesticated. Their song is much more varied and musical than the song of the



wild canary, and it is a song of contentment.

Yes, canaries are happy birds, but only when they are cared for properly.

CHOOSING A CANARY

Buy your canary in the late fall or winter when the bird is sure not to be molting, that is, shedding its feathers. Listen to many birds singing and decide which one you like best.

CARE OF YOUR CANARY

Treat your canary gently always, but especially when you first bring him home. Talk to him in a soft voice and don't make sudden movements or noises near his cage. You will probably carry him home in a box, so put the opening of the box next to the door of the cage and let him walk into the cage himself.

The cage must be big enough — 1½ feet long, 1½ feet wide and 1½ feet high will not be too large. Your bird will enjoy taking short flights from one perch to another.

Clean out the bottom of the cage and the perches every morning. Then give the bird fresh food and water.

Once a week wash the cage thoroughly, even the wire walls. If you want to be sure the cage has no mites (insect eggs) in it that spread disease, add a little mild disinfectant to the rinsing water.

Canaries like to take a bath now and then, so have a pan of water on the floor of the cage for your bird to splash about in. After a bath he will shake his feathers smooth, something like the way a dog shakes its coat of fur.

Sprinkle the floor of the cage with bird gravel, some of which the canary will eat. The rest of the gravel will absorb the moisture in the bird-droppings.

FEED FOR THE CANARY

Buy good canary seed at your pet shop. The kind to buy is a mixture of canary seed and rapeseed. Sometimes as a special treat your bird will like a little mashed-up egg yolk, or some meal worm you can get at the pet shop. These foods have protein in them which the bird needs. Hang a cuttlebone to the bars of the cage. The bird will peck at this to sharpen his teeth, and at the same time he will be adding minerals to his diet.

A tiny piece of apple or green vegetable is also good for a canary. Do not feed him anything sweet, like crackers.

When your bird begins to molt he may need a little extra protein, but do not overfeed him and make him fat.

MAKING FRIENDS WITH YOUR CANARY

The main points to keep in mind are: don't be sudden in your movements near the bird, and keep your voice gentle.

When you are sure your bird feels at home with you and your family, try leaving the door of his cage open. He may come out and fly about the room. See that all doors and windows are closed first. And do not coax him if he seems afraid. When he feels it is quite safe to come out and associate with the family he will do so.

Like other animals, a bird feels safer

if you give him a little warning of your approach. Touch the bottom of the cage before you put your finger on the bars. Do this even when your bird knows you quite well, and talk to him or chirp to him. The time will soon come when he will step onto your finger and let you carry him wherever you want to.

GENERAL HINTS ABOUT CAGED BIRDS

1. Hang cages in a sheltered corner of the room. Don't choose a place that gets too much sun, or that is too drafty.
2. If your bird has to be left alone for any length of time, he may become bored. So give him some toys to play with. Most birds like a bell that hangs from the cage roof and tinkles when it is touched.
3. If your bird flies away through an open door or window try setting his cage on the window-sill with the cage-door open. Perhaps you will find him there next morning.
4. Don't chase a bird that refuses to return to his cage. Wait until it is dark, for then the bird will not fly around. Use a flashlight to spot him and take hold of him gently, holding his wings down.

Golden Hamsters

These pretty little animals are very popular in the United States for their amusing ways and their fearlessness. Their natural home is among the rocks in warm climates. They never make a sound except when they fight. Then they

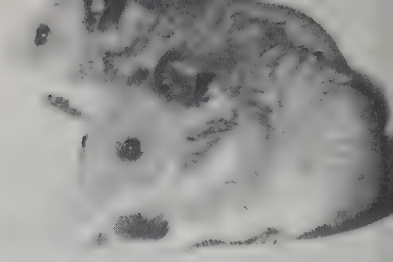
scold each other in funny squeaky tones.

Hamsters are such friendly little creatures that you need never worry about their harming you. But it is a good idea to have a pair of heavy gloves handy and put them on before you handle the animals when they are fighting each other.

PENS FOR HAMSTERS

Have a separate pen for every hamster. It should measure about 8" in width, 10" in height, and 18" in length. The floor should be made of strong mesh. A hardware cloth that has a $\frac{1}{4}$ " mesh is good for it will allow little to fall through. And if you put several layers of newspaper under the pen and change them every day, you will save yourself a good deal of cleaning work.

As hamsters do not like much light, the pens can be made of wood, with a wire-mesh door and some air-holes in the back. An all-wood pen makes it hard for you to see your pets, of course, so some people make the whole pen, or at least half of the top, of wire-mesh. If you do that try to soften the light from above. And give the little animals plenty of



straw, dry leaves, grass and soft paper so that they can hide themselves in it if the light is too strong. They also use this "bedding" for nests and for hiding their stores of food in.

FEEDING YOUR HAMSTERS

It need not cost you much to feed your pets. They will do very well on the fruit and vegetable peelings from the kitchen, plus some cereal, whole wheat bread and dog biscuit. A mixture of seed and grain sold at pet shops for pigeons will also suit your hamsters.

A hamster eats very little, but he stores up food for when he will need it. He carries it away in pouches in his cheek, then empties it out and buries it in the straw in a corner. Always keep a dish of fresh water in the pens.

CLEANLINESS AND HEALTH IN THE PENS

Hamsters wash themselves regularly, licking their fur like cats. And this helps keep them healthy. But the pen itself and the water dish should be washed out thoroughly every week. Use soap and water and rinse with warm water and Clorox — 3 tablespoons of Clorox to a quart of water. Let the pen dry before putting in new straw and replacing the animals.

BREEDING HAMSTERS

When the female is about seven weeks old, she can start having a family. Put her into a pen with a male every day for a few hours for about 4 days. It is easy to tell males and females apart because the female rump is rounded and the male's is rather pointed.

You may easily have too many hamsters soon, because a family can consist of from five to eleven very tiny young ones. Don't breed your hamsters too often. And don't keep more than you can take care of. Give some away.

Young hamsters should not be left with their mother for more than three weeks. Then they should all be given separate pens.

You will get plenty of fun watching these little creatures. They have a charming way of stretching and yawning when they wake up, for one thing. Then they can climb. They use their front paws to pick up and eat their food. And they are so inquisitive! They peer into corners, sniffing and investigating every new object. Altogether hamsters are very well worth the little trouble they will give you.

Goldfish

These beautiful fish are easy to take care of because they are tough. They can stand the cold and they will eat a great variety of foods. But of course they need a good aquarium, a fairly even temperature, and the right kind and amount of food.

THE AQUARIUM

This should not be a glass bowl. A rectangular tank is much better. And you will need one big enough to hold a gallon of water for each inch of fish you are going to put into it. (In measuring the length of a fish in inches do not count the tail.)

Start preparing the tank a week or more before you buy your fish. Give it a good washing inside and out, and then rinse in clear water.

Wash either sand or fine gravel by running water through it until the water runs clear as it drains off.

Lay the sand along the bottom of the tank. It should cover the bottom to a

depth of about an inch and a half, except that you need to slope the floor of sand from the back of the tank to the front. Uneaten particles and other waste matter will roll down this slope and it will be easy to siphon them off every day.

Now you are ready to pour the water



depth of about an inch and a half, except that you need to slope the floor of sand from the back of the tank to the front. Uneaten particles and other waste matter will roll down this slope and it will be easy to siphon them off every day.

Next, set a few green plants into the sand. The crown, or point where the

roots and stem join, should be just covered by the sand.

FILLING THE AQUARIUM

Pour the water onto a piece of paper laid on the sand or gravel. It will then flow off the paper without disturbing the sand or the plants.

The water can be the ordinary water from a faucet in your home. But if

chlorine has been added to your city water, draw off enough to fill the aquarium and keep it in a separate container for a week. Then you may safely use it in the aquarium.

You will need to add a little water about once a week to replace any that has evaporated, so, if your water is chlorinated, it would be a good idea to have an extra supply that has been cleared of chlorine by standing.

Your dealer will sell you plants that simply float on the water, or that live half in the water and half in the air. All the plants should be well arranged around the back and sides of the aquarium, so that the front is clear and there is enough space for the fish to swim about comfortably.

WHERE TO KEEP YOUR AQUARIUM

The best place for your goldfish is near a window where they will get an hour or two of sunshine in the morning. They should be in a good light for the rest of the day too. Goldfish do best in a room-temperature between 55° and 65°. The water temperature should be about 70° Fahrenheit.

KEEPING THE AQUARIUM CLEAN

Too much sunshine may cause the water to turn green, and a green slime (algae) may sometimes have to be scraped off the glass. Cut down the amount of sunlight by pasting paper on the sunny side of the aquarium.

Siphon off regularly all uneaten food and other debris that has collected in front of the tank. You can buy a dip

tube from your dealer for about a quarter.

Ordinary snails make good scavengers. One or two of these and a South American catfish will help a great deal to keep your aquarium clear of waste matter.

OXYGEN FOR THE GOLDFISH

A fish has no lungs to breathe with, but it has other ways of getting oxygen into its bloodstream. It takes water into its mouth and lets it run out through the gills on the side of its head. Some of the air that is in the water is taken into tiny blood-vessels in the gills, and this air provides a certain amount of oxygen.

The plants in the tank, in addition to giving shelter to your fish and providing safe nests for fish-eggs, breathe out oxygen into the air and into the water, and breathe in carbon dioxide which would otherwise harm the fish.

You will know if your fish are not getting enough oxygen. They will push their mouths up through the surface of the water, trying to get the oxygen they need from the air.

If you see your fish reaching into the air for oxygen you can supply more by adding water to the tank, or by taking some fish out, or by adding more plants. If the fish still seem to have too little oxygen it would be wise to clean out the tank thoroughly. Take out some water and replace it with fresh water. It may even be necessary to empty the tank and refill it altogether with fresh water.

FEEDING THE FISH

Feed your goldfish once a day, but do not give them more at a time than they

can eat in 5 or 6 minutes. The best food for them is dried whole wheat bread, dog biscuit (ground to a coarse powder), ground beef (raw), cooked oatmeal, and worms cut up very small. Your dealer will recommend other foods for a change of diet.

TO HATCH GOLDFISH

A female goldfish will spawn (lay eggs) soon after she is a year old. The eggs are shot out into the water and fertilized by the male. If they drop all the way to the bottom they will all be eaten by the grown fish. But you can save some of them. Put a branch of a plant called *Myriophyllum* (which you can get at the pet store) into the tank. The sticky eggs will cling to it.

Have ready a glass bowl of water at a temperature of about 70° and lift your branch of *myriophyllum* from the tank into the glass bowl.

When the young fish appear — in about 4 or 5 days — feed them with infusoria your dealer will sell you.

After a week the young fish will need a larger pond that has a dirt bottom and where green plants are growing. You must feed them if you have them in a concrete-lined pool.

Goldfish can live outside throughout the winter, but only if the ice in your pool does not freeze to the bottom.

Tropical Fish

Start your tropical fish aquarium with a five-gallon tank, and two or three pairs of guppies. As you learn to take care of

these, you can add black Mollies, striped Zebras, Swordtails, and many other beautifully-colored fish. All kinds of fish can live together quite happily.

TO SET UP AN AQUARIUM

First of all, be sure your tank does not leak. Fill it with water and leave it overnight before preparing it to hold your fish.

Then scour the tank thoroughly with salt. Rinse it two or three times to make sure it is quite clean.

Wash some fine gravel, enough to make a two-inch layer at the bottom of the tank. To wash gravel, put it in a pan and let water run over it. The dirt will fall through to the bottom.

See that the gravel slopes down from the back of the tank to the front. Any dirt or fish-food that is not eaten will slide down and you can remove it with a dip-tube or siphon. These can be bought at your fish supply store.

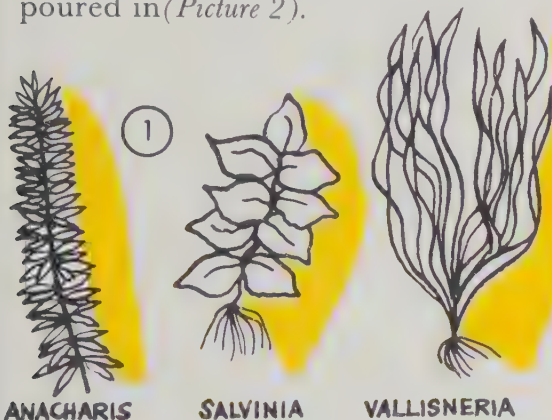
TO PLANT AN AQUARIUM

You need three kinds of plants for an aquarium. One kind has roots that you set in the gravel; another kind grows partly on the surface and partly under the water; and a third kind floats entirely on the surface (*Picture 1*).

Put in the rooted plants as soon as the gravel is in the tank. Plant them so that they seem to be growing in a natural way. And be careful not to let them block your view of the fish.

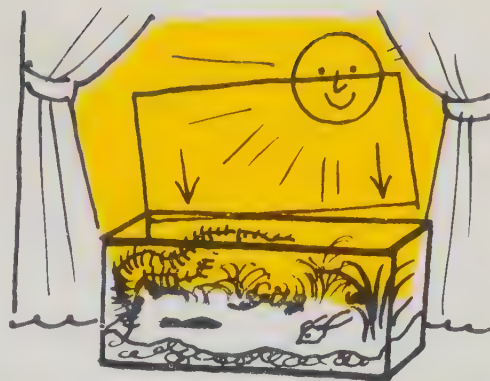
Do not fill the tank too full. Leave a space of about two inches at the top for

air. Pour the water in carefully so that you do not disturb the gravel and plant roots. One way is to use a watering-can. Another is to pour the water onto a piece of paper inside the tank, removing the paper when the water is all poured in (Picture 2).



Then put the other plants in—those that float on top of the water and those that are partly under the water and partly on the surface. Both of these kinds multiply fast, so do not put in too many (Picture 3).

Let the water stand in the tank with the plants in place for at least one day before you put in the fish. When they are in, cover the tank with a sheet of glass. A strip of adhesive tape all around under the rim of the glass cover will hold it in place.



LIGHT FOR THE AQUARIUM

If you have a space near a window that gets sunlight for an hour or two every day, that is the best place for your aquarium. If you find that your fish are getting too much sun, protect them by pasting a thin sheet of paper over the sunny side of the tank, or you can coat that side with a special liquid your supply store will sell you.

If you cannot give your fish natural daylight, use artificial light. Your supplier will have electric light fixtures that you can hang directly over the tank. Plants grow toward the light, and this will make them grow straight up. Electric light also keeps the water warm on winter nights. Remember these are *tropical* fish, and they must be kept in a warm, even temperature.

SCAVENGERS

These help keep the water clean because they eat scraps of food left by the fish. Snails are the most common scavengers. South American Catfish are good too (Picture 4).

BREEDING TROPICAL FISH

You may become so much interested in your fish that you will want to go in for breeding them. These are some of the things you will have to know:

Some fish, like the Zebra and the Pearl Danio, lay eggs that change into young fish (*Picture 5*).

Some are live-bearers; that is, they bear their young alive. Guppies are live-bearers, and so are Mollies and Swordtails (*Picture 6*).

The Gourami fish lay eggs and surround each egg with an air-bubble. They hide the air-bubble under a leaf (*Picture 7*).

You can leave live-bearers in the tank to breed. Many of them will be eaten by the grown fish, but some save themselves by hiding under leaves.

To breed egg-layers you must have another, smaller tank. Put a male and a female into this tank, and, as soon as the female has laid her eggs, put both back into the big tank.

An electric light of the kind used for lighting the aquarium will give enough heat for grown fish. But if you are going

to raise egg-layers you will have to buy a real electric heater. This will be controlled the same way as the heat in your house is controlled—by a thermostat. Your dealer will show you some heaters and advise you about the size you need and how to get it installed.

HOW TO FEED

NEWLY-HATCHED FISH

Young fish have very tiny mouths, so their food must be tiny particles. Your supplier will sell you very small forms of life that you can hardly see, called “infusoria.” Follow carefully the feeding directions he will give you.

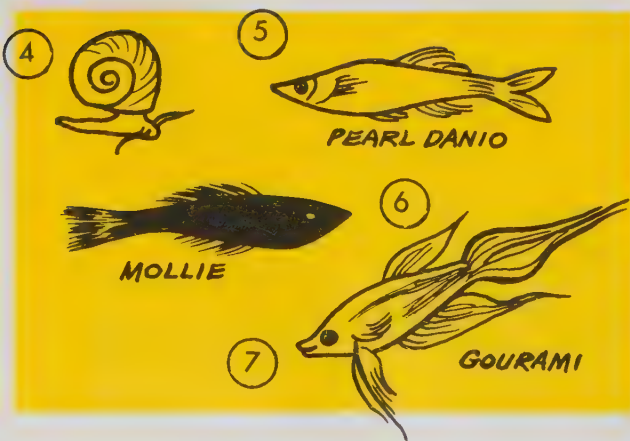
GENERAL RULES FOR THE CARE OF TROPICAL FISH

Do not crowd your tank. It is much better to have too few fish than too many.

Do not put artificial decorations into the tank. Gravel, plants, and one or two rather large stones or shells will be enough. You can have a small flower-pot lying on its side as a shelter for small fish, if you like.

Watch the plants to see if they are growing well. If they turn brown or yellow, give your aquarium more light.

If you notice that most of the fish are swimming near the surface of the water, it will probably be because they haven't enough oxygen. Check to see whether you need more plants or more light, or whether the tank is over-crowded.

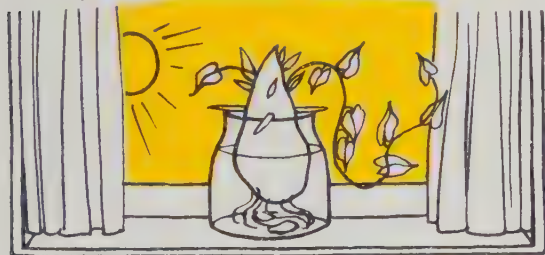


Gardens, Indoor and Outdoor

Indoor Gardens

SWEET POTATO PLANT—Put a sweet potato in the mouth of a mason jar three quarters full of water. One end of the potato must be in the water. If the potato is too narrow to rest on the jar's mouth, stick several toothpicks into it. Let the top of the jar support the free ends of the toothpicks.

Put the jar in a sunny window. The sweet potato should begin to sprout after about two weeks. Soon you will have such a long vine that you will have to provide strings for it to climb on. (*Picture 1*).



A MINIATURE FOREST—Sprinkle lentil beans into a saucer. Add enough water to keep them moist but not floating. If you remember to add a little water when necessary, and keep the saucer in the light, you will have a little forest of green sprouts in about ten days. (*Picture 2*).



2

A MINIATURE ORCHARD—Fruit seeds will sprout if you keep them for three or four weeks between moist paper towels. Be careful to keep them moist all the time. When they have begun sprouting, plant them in soil in a coffee can. Put the can in a sunny window and keep the sprouts watered. They will soon turn green. You can use the seeds of the apple, pear, orange, grapefruit, or date for your small orchard. (*Picture 3*).



3

A BULB GARDEN—Narcissus and daffodil bulbs can be bought at the dime store in the late fall. Plant them in a wide shallow bowl half-filled with pebbles and water. Keep them in the dark for

about ten days. See that the roots are always wet. Bring them into the light and they will bloom in four or five weeks. (*Picture 4*).



4

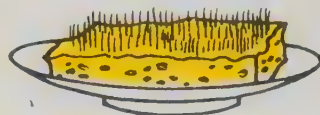
LILIES-OF-THE-VALLEY — You can grow lilies-of-the-valley just as you grow bulbs. Cut off all but 2 inches of the root and set the plant in pebbles and water. Keep it in the dark for ten days, then put it where it will get plenty of light but not too much sun. After about three weeks flower-buds will appear. (*Picture 5*).



5

GRASS—Dip a sponge in water and squeeze it out. Sprinkle grass-seeds plentifully on a plate. Press one surface of the moist sponge on the plate so that the sponge becomes covered with seeds. Put the sponge in a saucer of water in a sunny window, and in a few days it

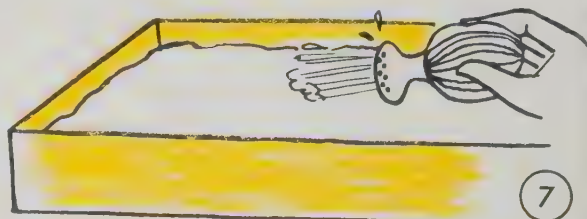
will be covered with bright green grass-shoots. (*Picture 6*).



6

SWEET ALYSSUM—Prepare a pot of soil. Put small stones at the bottom, then leaf-mold or peat-moss, then good garden soil. Sprinkle a few sweet alyssum seeds on top and cover with a light layer of soil. Press the soil firmly and water with a spray. Keep watering every day. (*Picture 7*).

It is a good idea to cover the seeds with a sheet of paper until tiny sprouts appear through the soil. Then give them



7

all the sunshine you can.

Do not be in a hurry to see flowers on your alyssum plants. If you tend them carefully you will have blooms in about two months.

You can grow dwarf marigolds and dwarf zinnias or any other annuals (plants that come up every year from seed) the same way. (*Picture 8*).



8

A CARROT-TOP FERN GARDEN — Plant some carrot tops in a shallow baking-pan. They will look like the ferns you see growing in the woods.

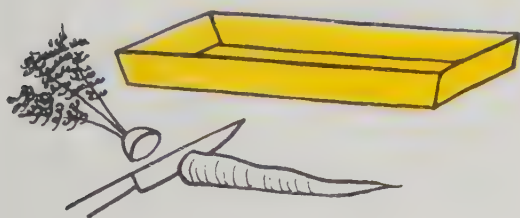
Put sand at the bottom of the pan, then garden soil, but do not fill the pan to the top.

The carrot-tops must be fresh, of course. Cut away all the carrot except about half-an-inch of the thick end. This piece of carrot not only holds the

green fern-tops together but also helps to feed them.

Put in as many plants as the pan will take without crowding. Press the soil down around each one, and water it by spraying or sprinkling. Never *pour* the water on.

If you have any little shells or colored pebbles, use them to cover up the soil. They will look pretty and keep the soil from drying out. (*Picture 2*).



A GARDEN INSIDE A JAR — Some day when you are in the country, collect little plants to grow in a jar.

You will find moss around the bases of the trees, and tiny ferns in damp spots almost anywhere. There will also be young seedlings (plants just beginning to grow from seeds) and little trailing vines.

Use a large jar with as wide a mouth as possible so that you can get your hand inside easily.

At the bottom of the jar put a layer of charcoal, then on top of that a layer of moss, then some small rough stones. Finish off with leaf-mold and sand and good black soil from the woods. The jar should not be more than one-third full.

Put your plants in carefully, using a fork and spoon. Cover the soil with moss,

and water the moss and plants with a spray or sprinkler. The soil must be damp all through but not soaking wet.

You may find the glass has become dirty while you worked on your garden, so clean it inside and out. Then put a small pane of glass over the jar—and leave it alone. It doesn't need any watering. It will make its own weather conditions.



Outdoor Gardens

If there is a yard at the back of your house, ask your Mother if you can have a small plot for a garden. You can use half of it to grow flowers and the other half for vegetables. The vegetable plot should be long and narrow. The flower-bed can be round or square, or any shape you like.

PREPARING THE SOIL FOR VEGETABLE AND FLOWER GARDENS

Dig the soil and turn it over. If you are not old enough to dig, ask some grown person to do it for you. Sprinkle a little lime and a little manure over the lumps of soil, and leave it alone for at least a week. Then rake the soil smooth and take out any big stones.

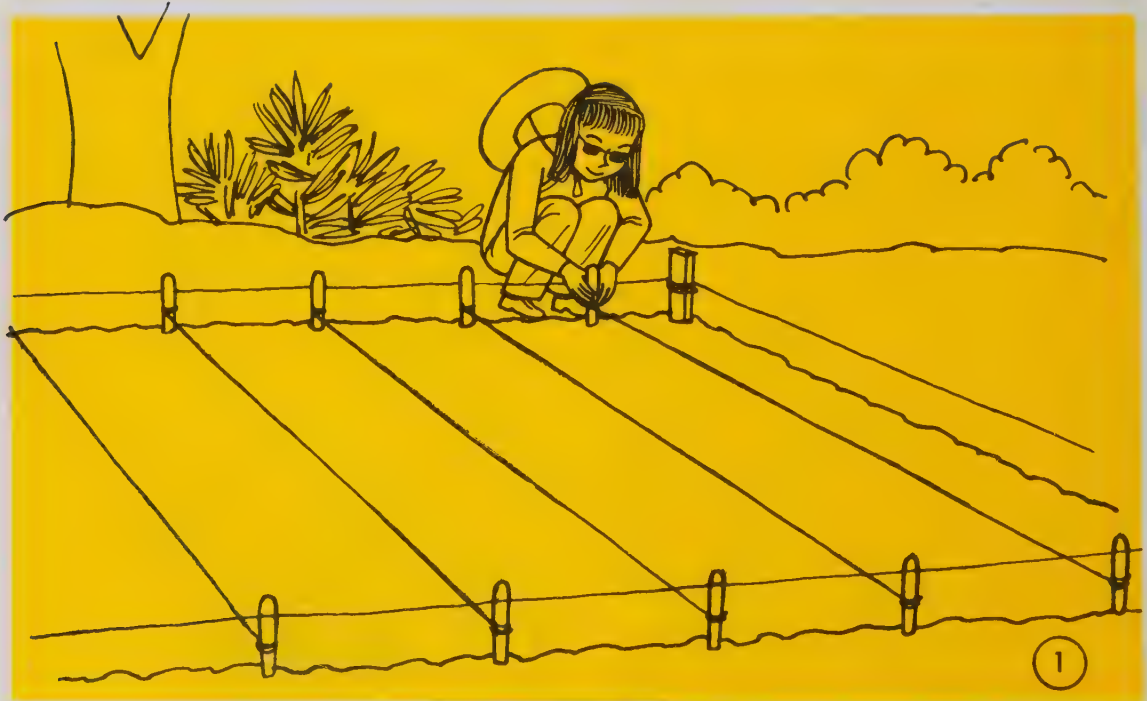
Vegetable Garden — You can buy your seeds from a seedsman or at a good hardware store. You will find instructions on the back of the seed packet about the right time to sow the different vegetables.

Remember that peas *must* be sown early, and onion sets, radishes, lettuce, beets, and carrots *can* be sown early if you like.

String beans, lima beans, corn, and tomatoes must not go into the ground until all danger of frost is over.

All vegetables should be grown in rows so that you can walk between the rows later to weed your garden.

Use a piece of string to keep the rows straight. Strong twigs tied one at each end of the string and stuck into the soil will keep it taut. (*Picture 1*).





May-June



Use a spray to water the newly-sown seeds. *Pouring* water over them will wash the seeds away. Do not give them more water than is needed to keep the soil damp.

Thin out seedlings when they have grown several inches high and look strong. If you do it too soon, you may injure the surrounding young plants.

And do not forget to keep your garden weeded during the summer. (Picture 2).



Flower Garden—Note: The flowers listed here should do well in all temperate climates. They may not thrive in the part of the United States you live in. If you do not know what flowers will grow in your garden, anyone who likes gardening will be glad to tell you.

Plan your flower garden before you start. If possible make it along a wall or fence, or against a background of shrubs.

Sow seeds of annuals only. (Annuals are plants that grow every year from the seeds of the previous year's flowers. Perennials—plants that live through the

winter—are harder to take care of.)

When you buy your seeds, look at the back of the package to see what height the full-size plants are supposed to be. Plan to have the tallest plants at the back (or in the middle if the garden plot is round) and the lowest-growing ones in front, as an edging.

If the seeds are very tiny, scatter them over the surface of the ground, cover with fine soil, and press down with your hand or a wooden slat. If the seeds are larger, cover them with a little more soil, but be careful not to bury the seeds so deep that they will never come up at all. (Picture 3).



Thin out only if you are sure the seedlings are too close, and only when the plants are fairly sturdy. You can replant flower seedlings that you pull up, of course. Don't waste them.

Hollyhocks, zinnias, marigolds, bachelor's buttons, lupines, sunflowers all grow tall and make good background plants.

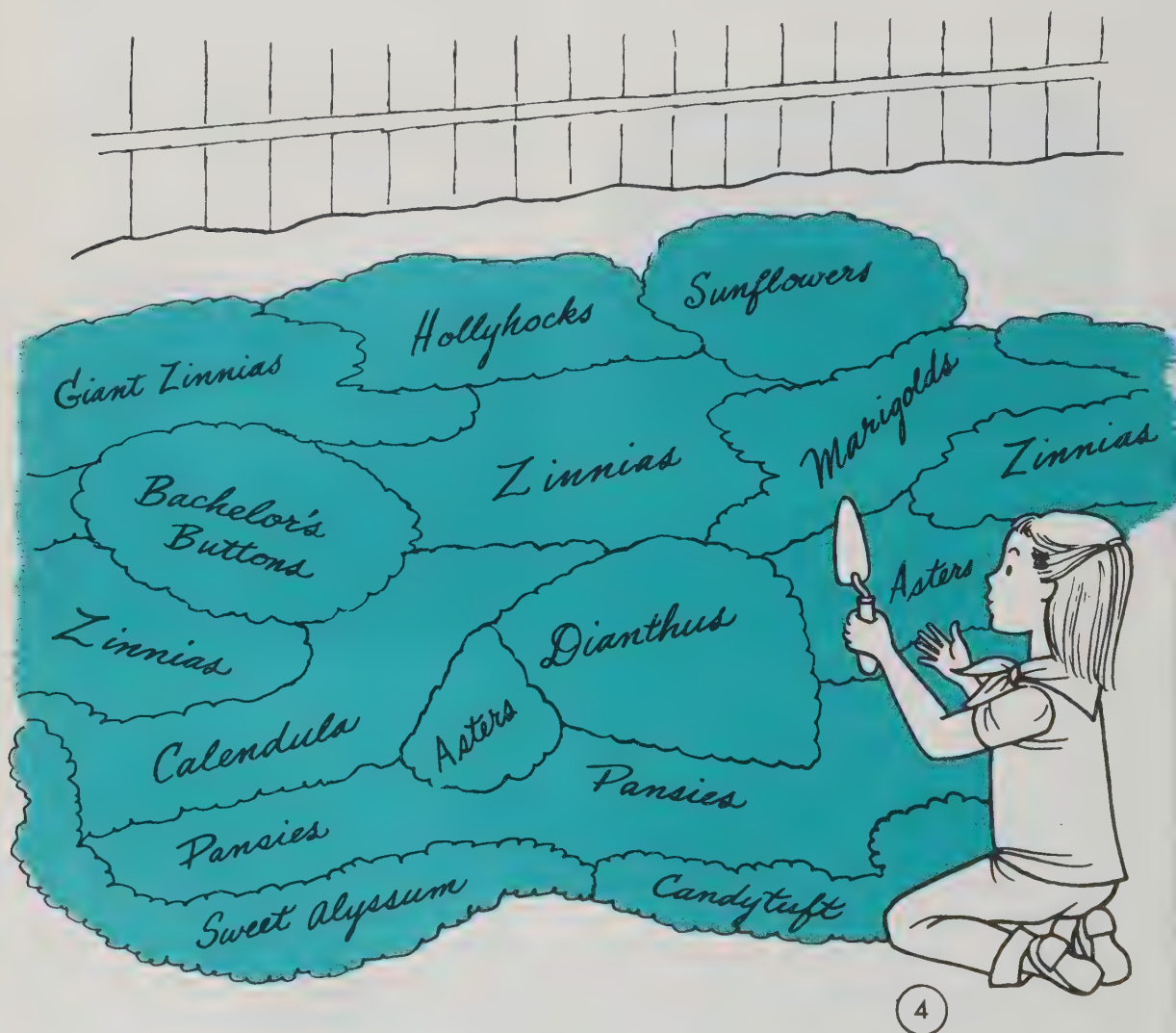
Dianthus (pink), calendula, California poppies, asters grow to more or less medium size.

For edgings, sow sweet alyssum in white or light purple, or candytuft, or lobelias.

Buy a box of pansy plants in the spring and set them out in your border. Plant them as they come out of the box,

in clumps. They will make your garden look colorful while you are waiting for your seeds to sprout.

Your garden will look prettier when it blooms if you have masses of flowers of the same color together. You can get an idea of the color the flowers will be by looking at the pictures on the seed packets. (Picture 4).



Arranging Flowers

FRESH-CUT FLOWERS

When you see a vase of flowers that makes you say, "Oh, how lovely!" you can be sure the flowers have been carefully arranged. You would not admire them so much if they had been simply stuck into the vase.

If you want to know how to arrange flowers so that they will look natural and graceful, here are some hints to help you:

1. Collect a few different-shaped vases, so that you can choose the one most suitable (in color) for the flowers themselves, and (in size and shape) for the way you want to arrange them (*Picture 1*).
2. In arranging your flowers, see that the height of the tallest stem is one and a half times the width of the design at its base (*Picture 2*).

Use sharp scissors to make a clean cut that will not injure the flowers, and cut the stems at an angle rather than straight across.

3. Use flower-holders inside your vase to stick the stems into. Fix them to the vase with an oily modeling clay while your hands and the vase are quite dry.
4. Arrange the stems so that the smallest flower or bud comes at the top of your design, and the biggest at the bottom. That means the larger the flower, the shorter the stem (*Picture 2*).
5. Let the stems curve the way they want to.
6. Use a spray or two of leaves, or maidenhair fern, or some delicate flowery stems like baby's breath for filling in spaces between the



flowers, and for covering up the flower-holder if your vase is made of glass.

7. Do not put too many flowers into one vase. For the best effect mix spike flowers, like gladioli, heather and snapdragons, or the stems of pussy willow with round flowers, like pinks, daffodils and chrysanthemums. For a medium-sized vase three spike flowers to four round ones would be enough if you fill in with leaves (*Picture 3*).
8. Strip stems of leaves below the surface of the water.

Vases—You need not buy expensive vases. Many pretty ones can be bought



for very little money. Or you might paint tin cans of different sizes. Have some black and some a rich blue or green. Flowers do not show up as well in pale-colored vases. Do not decorate the painted cans. Let the flowers in them be the decoration.



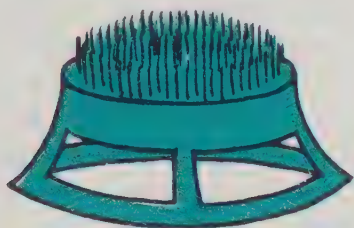
An ordinary painted can looks much more interesting if you stand it on some kind of base. The base should be several inches wider than the can. A block of painted wood makes a good base, and so does a round mirror, or even a saucer, painted and turned upside down (*Picture 4*).

Look at the dime store for wide-mouthed pottery vases and bowls. Sometimes in antique or thrift shops you can find beautiful Chinese or Japanese bowls, made of copper or pewter, that cost very little. (*Picture 5*).

Small jars or drinking glasses can be used if you have just a few flowers. But you must be careful about how you arrange them. The rules you have just read will help you. Put some pebbles or colored marbles into these light vases to keep them from falling over.



FLOWER-HOLDERS — Buy these at the dime store. The best holders have a base that will not rust, and the sharp points or needles are very close together. Start with one of these, round, and about 4" across (*Picture 6*).



6

If you are using a low bowl or dish, put the holder a little to one side, not right in the middle. This helps to make a graceful arrangement.

Stick the ends of the stems into the holder at any angle you want to. The points won't hurt the flowers. In fact they help keep them fresh, as water passes up the stem more readily through the holes made by the needles.

If you are using a tall vase, a piece of chicken wire makes a good holder. Crumple it a little and wedge it inside the vase. Fasten one of the loose wires to the top of the vase to prevent the chicken-wire holder from dropping to the bottom. You can always hide the wire with leaves. If you use a tall vase that has a very narrow opening, put only one tall flower in it, with perhaps one leaf-spray. Stems crushed into narrow openings cannot feed the flowers enough water. Besides, they make the flowers look too crowded to be pretty.

HOW TO KEEP CUT FLOWERS FRESH

The less you handle the flowers the longer they will last. As soon as you bring them into the house, either from your own garden or from the florist's, soak the stems in a large bowl of cold water for an hour or more. Put a little ice in the water. Take the flowers out of the bowl one at a time when you are arranging them.

Flowers will stay fresh longer too if you take them out of their vase every day and soak the stems in cold water for an hour.

Give flowers all the water they need. This does not mean that big flowers need more water than little ones. Pansy stems need two or three inches of water, more than any other flower stems. The stems of carnations and roses need two inches, gladioli one and a half, daffodils and tulips a little less.

Violets and gardenias take in water through their leaves and petals, so spray them and they will keep their freshness longer.

Make cross-cuts in the bottom of the stems of Easter lilies, peonies and chrysanthemums to help them take in more water.

Your flowers will last longer too if you change the water in the vases every day, and if your vases are always kept clean. It helps to keep the water fresh and the vases clean if you strip the leaves off all stems where they go below the surface of the water.

If you have your own flower garden, cut flowers early in the morning when the dew is still on them, or after sundown in the evening.

Each time you snip off a piece of stem, dip the cut end of the stem in water at once.

Keep flowers away from radiators, sunny windows, and fires, and out of drafts.

WILD FLOWER ARRANGEMENTS

Wild flowers can be arranged in very graceful designs.

Try putting Queen Anne's lace and yarrow and water hemlock together for an arrangement in white. Or mix yellow jewel-weed with butter-and-eggs. Or white daisies, with black-eyed Susan for contrast. You can find leaves that will make good fill-ins: catalpa, lemon, beech, elm, eucalyptus, mimosa leaf, depending on which part of the country you live in.

Cattails, bamboo, wild phlox, dock, tiger-lilies do not wilt as quickly as some other wild flowers. You can make good designs with any of these flowers and a few leaves or branches. And do not be afraid of the dark red berries of the common sumac. These are not poisonous. Poison sumac has yellowish-white berries.

The stems of wild flowers should always be plunged in cold water as soon as possible after they are picked.

ARTIFICIAL FLOWER ARRANGEMENTS

When fresh flowers are hard to find

or too expensive, use artificial ones. You can buy artificial flowers at most department stores and dime stores, but you can also make them if you like. (*See page 150 for how to make paper flowers*).

Artificial flowers are easier to arrange than fresh flowers because you can bend the stems any way you want to. And if you put real leaves in the spaces between the flowers, the leaves will make the flowers look almost like fresh ones.

If you have a supply of several kinds of artificial flowers, you can change your arrangements quite often. You will enjoy having new flowers to look at instead of dusty ones.

You do not need to cut the stems of artificial flowers, because you can bend them to the right length. Then, when you take them out of the vase to put them away, you can unbend them, and later on you can use them for some other flower arrangement that requires long-stemmed flowers.

Instead of holders, half-fill your vase with sand to stick your stems into. Or you can bring out any old-fashioned glass holders you may have around the house. These are good for artificial flowers, but not for fresh ones.

After you have practised making designs with flowers for a while you will not need to think about the rules any more. You will know them so well. Gladioli and chrysanthemums, roses and carnations, dandelions and field grasses, cattails and daisies—you will know just how to arrange all of them in a way that looks lovely and natural.

What Shall I Write?

From the time you get up in the morning until bedtime a great many things happen all around you. Perhaps you wake up and remember it's your birthday. Perhaps you run outside for a ride on your new bicycle before breakfast. Or, on the way to school, you meet your friend and make plans to go fishing or swimming in the afternoon. Or your teacher may tell you a wonderful and exciting story. Why not write about some of these pleasant happenings?

WRITE A LETTER

A good way to begin is to write a letter. Share your feelings with a friend who may be so far away that you don't often have a chance to meet and talk.

If you haven't anyone you want to write to, pretend you have. Then write as if you were writing him or her a letter. You will find that words come to you much more easily that way.

Of course you will want to know how to spell, and you will try to make sentences properly. But once you have learned those simple things, you can write in your own way just as you talk in your own way.

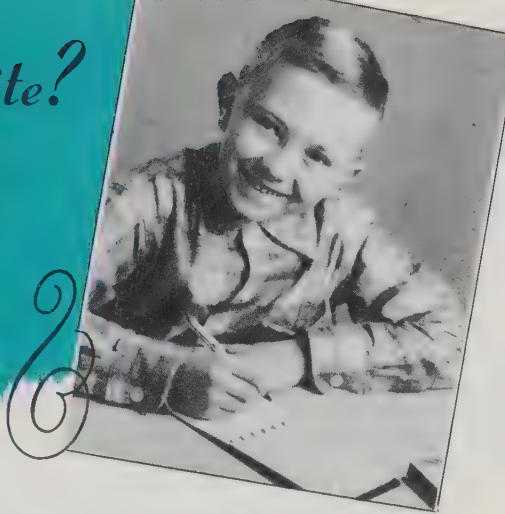
You know how sometimes, after you have been to the circus, or had a ride in a train, or spent a long happy day in the sun, you come home simply bursting to tell your Mother all about it.

Sometimes all you can say is "It was great!" Or "I talked to the engine-driver." Or you might be so excited you can't say anything at all. Or maybe the words come tumbling out, all mixed up, in no sort of order. Mother says, "I don't understand a word you're saying. Start at the beginning and tell me again, more quietly."

Well, you try. And the way you tell your Mother about it then is something like the way you would write the story.

Suppose you had gone to the circus. Afterwards, at home, you think and talk about all the things you saw and did there. Then a day or so later you get out some writing paper and you sit down to write about it to your friend, either a real friend or an imaginary one.

You might start by telling your friend how you happened to find out about the circus in the first place. You say you saw a big poster on the way to school, and it showed a funny red-nosed clown and a troop of elephants. The boys and girls at school talked about how exciting it was.



The day came, a Saturday. There were clouds in the sky during the morning. "I was scared it might rain," you might write, "but it didn't. And after lunch we went off to the bus."

"It was fun on the bus because Jim's father was taking him and Betty to the circus too, and we all sat together. But when we got off the bus there was such a crowd we lost sight of them. Then inside the tent there was so much to see we forgot all about them."

From then on you'd probably describe the lions and tigers in their cages, the procession of elephants swaying their great trunks, the clowns that did such funny things you just ached from laughing at them, the lovely ladies that rode standing up on their white horses. And you would end by telling about what you liked very best of all. A clown gave you a donkey-ride, perhaps. Or the biggest of the elephants suddenly lifted his trunk and squirted cold water over his keeper.

If you are writing a real letter, you will have to remember to keep your friend in mind too. He must not think you care only about your own good time. Your first paragraph should be about *him*. You can thank him for his letter, if he wrote you one. Or you can ask him if he has ever been to the circus. If not you can tell him you hope he will go sometime because he will have such fun. And then, when you are writing about how you enjoyed yourself while you were there, you might say, "I

thought of you and how you would have liked seeing those fine horses," or whatever particular animal or stunt you think he would like most.

When people write about things they have seen and done themselves, they do better if they first think about what they *really* saw and how they *really* felt. "How did I *really* feel in the train," they might ask themselves. Or, "What did the sea *really* look like when I caught that first glimpse of it?"

When you begin to write, try to find words that best describe *your* feelings.

Don't say things by copying expressions other people use, try to find an expression of your own, that says just what *you* mean.

As you get to know more and more words you will see that you do not have to use the same ones over and over again. You will get great joy out of using words and phrases that tell just how you feel, not how someone else may have felt or how you think you ought to say you feel.

You may like the sound of certain words more than others. If so, write them down and say them out loud. They will stay in your memory and you can use them when you need them. But use them only when they can do a job of expression for you that no other word can do as well.

In music the sounds made on the piano or violin or by the singing voice have what we call rhythm. They rise and fall in a way we find pleasing. In

writing, your phrases and sentences should have a kind of rhythm too. Let them flow along smoothly and naturally. You don't have to write in a literary style.

The greatest writers express their deepest thoughts and feelings in simple, smooth-flowing sentences that we remember forever.

We realize this when we try to put into words some of these deep thoughts and feelings. Suppose we try to say how the world began. We might say "God made the world out of nothing," or "There was just empty space. Then God decided to create the world."

Here are the words of the poet-writer in the Bible describing what happened: "In the beginning God created the Heaven and the Earth." Read these words aloud and you will feel the rhythm of the sentence and realize how this rhythm adds beauty to the idea that is expressed.

You will get the same feeling if you try to say how light came into the world, and then look at the first chapter of Genesis and find the words: "And God said, let there be light, and there was light."

Or you can try to put into words the reason why the United States fought its greatest battles. Then you remember how Abraham Lincoln ended his Gettysburg address: "so that government of the people, for the people and by the people should not perish from the earth."

Can you hear the rhythm in those beautiful phrases? Can you see why the

world remembers them forever?

WRITE A STORY

When you are telling or writing about something that really happened, you look for words that come nearest to saying what that happening was. But if you are making up a story, you have to do more planning beforehand.

In the first place you have to think about the kind of story you are going to make up—what is going to happen in it.

Then you must make up people for the story to happen to.

It isn't as easy as it sounds. Think of it this way: if you were telling your Mother that Jim, your friend next door, climbed a fence to get a baseball, or that Jim's sister Betty got A's on her report card, your Mother might say, "It doesn't surprise me." That is because she knows Jim and Betty and what you tell her about them is what she would expect.

When you make up a story about made-up people, you have to show your characters behaving in a way that will make your readers say "That's just what such a person would do." At the same time what they do has to help the story along.

Here is an example: You have an idea for a story. Let's say it's about a boy, Tom, and his little sister, May. They are playing pirates in an old abandoned rowboat that stands high and dry on the shingly beach of a river.

Tom has on a pirate hat and a black patch over one eye.

Along comes a bigger boy, John, carrying a pair of oars.

"You kids scram out of that boat," John shouts. "It belongs to my uncle and we're going fishing in it as soon as he gets here."

May turns on John indignantly. "That's a story!" she cries. "This boat's been here for years and years. How can it be your uncle's?"

Tom backs her up. They refuse to budge.

So now you have the beginning of a story. From here on things must happen. The story must move along.

You have those three people—Tom, May, and the big boy, John. You may have to have more if you find you need them later as your story develops. But let's see what these three are like, so far.

Well, you rather admire May. She shows spirit for such a little girl. Tom's no coward either. But the big boy, John, shows signs of being something of a bully.

What are you going to make these three characters do? It has to seem to the reader of your story to be the kind of thing they *would* do in real life, being the kind of people they are.

What are some of the possibilities?

John could throw the pair out of the boat and take over.

Or he might very cleverly suggest that Tom help him push the boat into the water. Then when the boat is afloat he could row off by himself, laughing,

and wave Tom and May goodbye.

But that would not do because, you remember, you have shown Tom and May to be the kind of children who would put up a fight of some kind. They wouldn't give up the boat so easily.

Then perhaps the idea comes to you—why not let Tom and May think up some clever way of getting the better of the big boy.

This might be where you decide to bring in John's uncle, who would be on the side of the two small defenders of their boat. You could have him come running at the sound of raised angry voices. He is quick to understand what has happened. He notices John's flashing eyes, and he can hardly help laughing at little Tom standing defiantly in the bow of the boat, still in his pirate hat and black eye-patch. May, he sees, is nearly in tears.

What happens? How are you going to bring your story to a happy ending?

The finished story must sound true. The reader must feel it could really have happened. And the four people in it must all behave as they would be *likely* to behave in the situation you have made up for them.

How about having May and the uncle between them secretly remove the plug that closes the bung-hole at the bottom of the boat, since the boat would be useless with a hole in its bottom? Then maybe all four of them could make up their quarrel and go off together to fish in a special pool up the river somewhere. Or perhaps you can

think of some other way of ending the story. You will enjoy thinking up a way to make it come out.

WRITE A POEM

What is poetry? Who knows?

Not the rose, but the scent of the
rose

Many people have tried to say what poetry is. The lady who wrote the lines at the top of this page is a real poet, and she knows about poetry. Yet even she ended by asking "Who knows?"

All we can be sure of is that there will always be poets and they will always be writing poetry. And they will write poetry, not for money, or even for fame, but because poetry is their natural way of expressing themselves.

A poet sees objects with his eyes, hears sounds with his ears, touches things with his hands, as we all do. But a poet is not content just to describe them. He wants to say what the special quality is in each, and also what it has to do with his life and with the lives of all of us.

Poets write in many different kinds of meter, or measure. They create rhythm by stressing words at regular places in the poem, so that there is a sound like the beat in music. They use rhymes at the end of the line, like *wing—spring*, or *beam—gleam*. They repeat the same sound in several lines so that it echoes in your mind pleasantly: the *w* in "A boy's will is the wind's will . . ." the *l* in "lisp of leaves", or the *r* in "ripple of rain."

But meter, rhyme, and rhythm are more than ways of dressing up a poem and making it stick in your memory. A good poet uses meter and rhyme and rhythm themselves to help express the meaning of the poem.

You will see this if you read poetry understandingly. For example, look at Wordsworth's poem about some daffodils he saw on one of his morning walks. He might simply have said "The wind tossed the heads of many yellow daffodils." Instead he said,

"Ten thousand saw I at a glance,
Tossing their heads in sprightly
dance."

And he ends his poem by telling us that often since that day he has seemed to see the daffodils again:

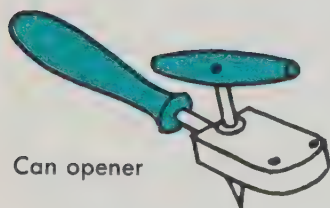
"And then my heart with pleasure
fills,
And dances with the daffodils."

The poet makes us see the flowers themselves, and the way they give themselves up to the wind and sun in a joyous dance. And he also shows us his own heart's response to the rapture of the flowers, not only at the moment when he first saw them but again years afterwards.

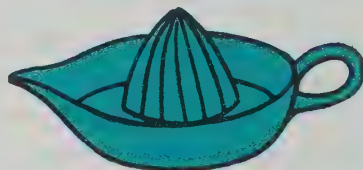
Don't expect writing to be easy. But if you keep on trying until you can do it well, you will find that you have made some exciting and wonderful discoveries. There are few things that can give a writer greater satisfaction than having said something clearly and well.



KITCHEN EQUIPMENT



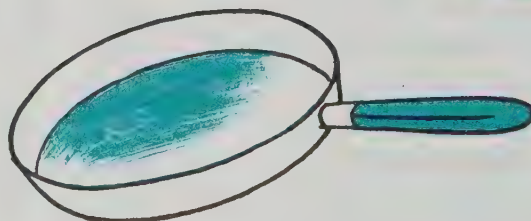
Can opener



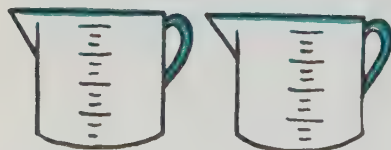
Fruit juicer



Paring knife



Frying pan



Measuring cups



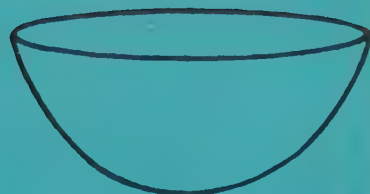
Slicing knife



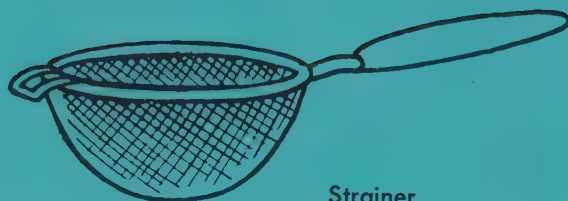
Measuring spoons



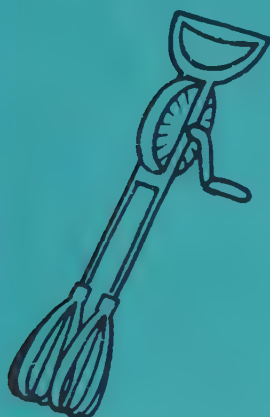
Apple corer



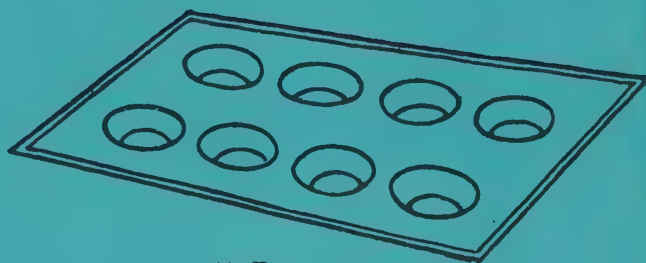
Chopping bowl



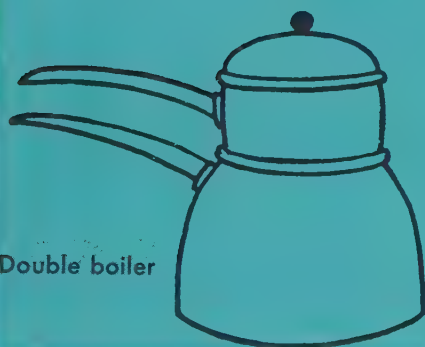
Strainer



Egg beater



Muffin pan



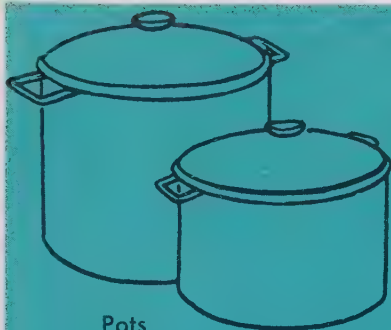
Double boiler



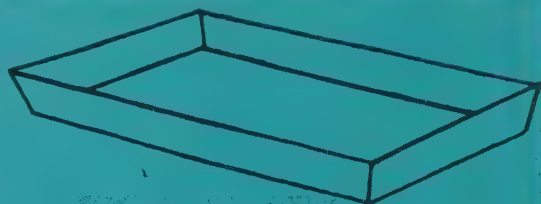
Wooden kitchen fork



Wooden kitchen spoon



Pots



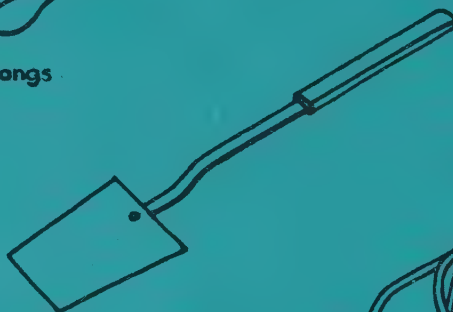
Baking pan



Flour sifter



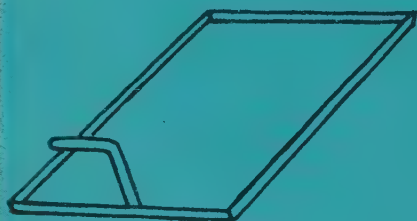
Tongs



Pancake turner



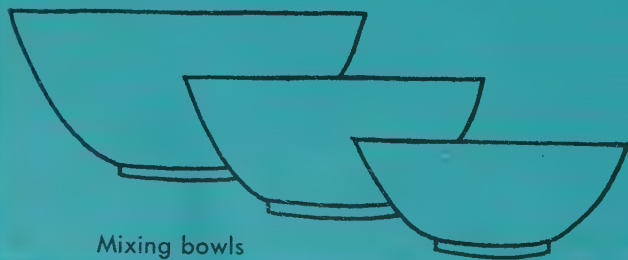
Potato masher



Griddle



Saucepans

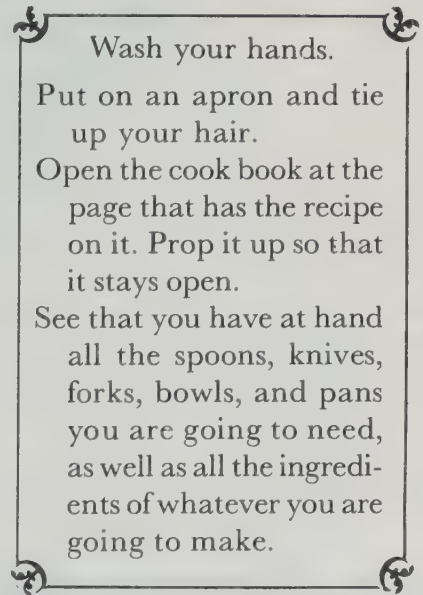


Mixing bowls

COOKING TERMS

Basting	Keeping food moist while cooking by pouring its own juices over it.	Baking	have appeared on the surface.
Beating	Mixing with a brisk lifting motion, to get air into the mixture.	Broiling	Dry cooking in the oven.
Cutting and Folding	Cutting through a mixture with a spoon to break air bubbles; then mixing in the last ingredient very gently, bringing the spoon up from the bottom and around the sides of the bowl.	Sautéing	Cooking directly over or under a flame.
		Deep Fat Frying	Cooking in a greased pan on top of the stove.
		Roasting	Cooking in deep boiling fat.
			Cooking in an oven with a small amount of liquid in the roasting pan.

Before you begin



Blending	Mixing butter or other shortening into dry ingredients.
Creaming	Stirring butter or other shortening until mixture looks like thick cream. (Making "creamed" dishes is another matter. This means making a "cream sauce" or "milk gravy" by mixing flour with butter and liquid.)
Dicing	Cutting vegetables or fruit into small pieces.
Mincing	Chopping food into very small pieces.

WAYS OF COOKING

Boiling	Cooking in water or other liquid when bubbles	Stir hot foods with wooden spoons or
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HELPFUL SUGGESTIONS: Measure dry ingredients first, then liquids. In this way you need use only one spoon or cup instead of two.

forks, which do not get hot enough to burn your fingers as metal ones do.

Light the oven (or ask your mother to light it) enough ahead of time so that it will be as hot as you want it.

When heating milk, do not cover it. Watch it and take it off the flame *before* it boils.

Keep hot foods very hot.

Keep cold foods very cold.

Hang dry pot-holders near the stove

so that they will be handy.

MEASURES:

To get a level spoonful of any dry ingredient like flour, first dip the spoon into the flour, then pass the back of a knife over it to remove the surplus.

3 teaspoons equal 1 tablespoon

4 tablespoons " $\frac{1}{4}$ cup

2 cups " 1 pint

$\frac{1}{4}$ lb. butter " $\frac{1}{2}$ cup

How to Make Scrambled Eggs

For 2 people you will need:

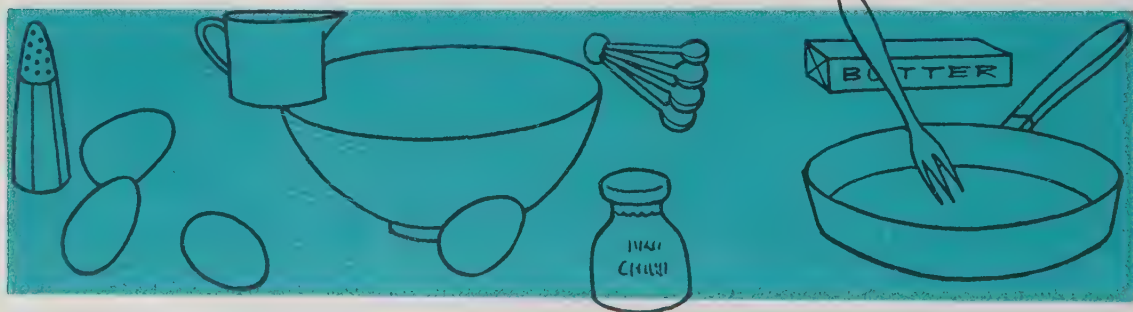
These Ingredients:

- 4 eggs
- 4 tablespoons cream
- 2 tablespoons butter
or margarine
- $\frac{1}{4}$ teaspoon salt

These Utensils:

- Frying pan
- Measuring cup
- Table fork
- Measuring spoons
- Bowl

1. Break the eggs, one at a time, into a cup. Then transfer the egg to a large bowl. Do this with each of the four eggs, first breaking it into the cup, and then pouring the egg into the large bowl. (This is done because one bad egg can spoil the other good eggs).
2. Beat the eggs well with a stainless steel fork. (A silver one will tarnish).
3. Add the cream and salt to the eggs and beat them some more.
4. Put the butter or margarine into the frying pan and melt over a low flame.
5. Pour the egg mixture into the hot frying pan.
6. Cook slowly, stirring the eggs constantly, until they are done as much as desired.



How to Cook Hamburgers

For 6 people you will need:

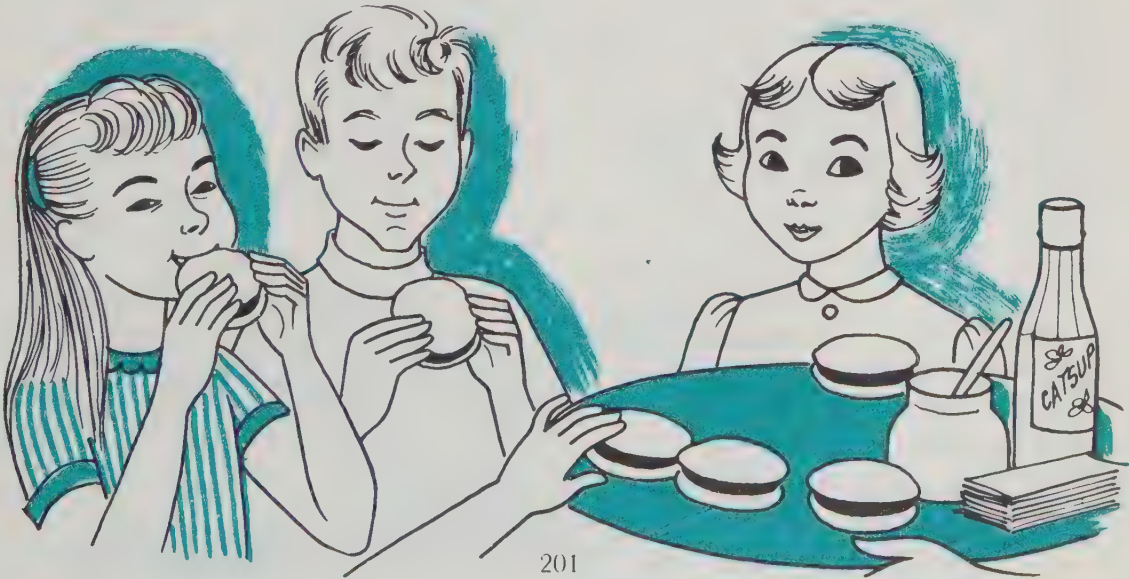
These Ingredients:

- 1 lb. lean ground beef
- 2 tablespoons butter or margarine
- 6 hamburger buns
- 1 small onion (if you like onion)
- 1 teaspoon salt
- $\frac{1}{8}$ teaspoon pepper

These Utensils:

- Wooden bowl
- Mixing bowl
- Frying pan
- Chopper
- Measuring spoons
- Paring knife
- Wooden fork
- Pancake turner

1. Put meat into bowl.
2. Add salt, pepper.
3. Peel the onion and then chop it very fine.
4. Add the chopped onion to the meat in the bowl. Mix thoroughly with a wooden fork.
5. With your hands, shape the meat into patties.
6. Put the butter or margarine into the frying pan.
7. Heat the pan over a medium flame.
8. Put the meat patties into the frying pan and cook on medium flame. Cook patties on both sides until done.
9. Cut open 6 buns, sandwich style, and spread with butter.
10. Serve the hamburger on the buttered buns, with catsup and mustard on the side.



How to Make Smooth Fluffy Mashed Potatoes

For 6 people you will need:

These Ingredients:

- 2 tablespoons cream
- 1 teaspoon salt
- ½ cup milk
- 6 large potatoes
- 2 tablespoons butter
- 2 sprigs parsley

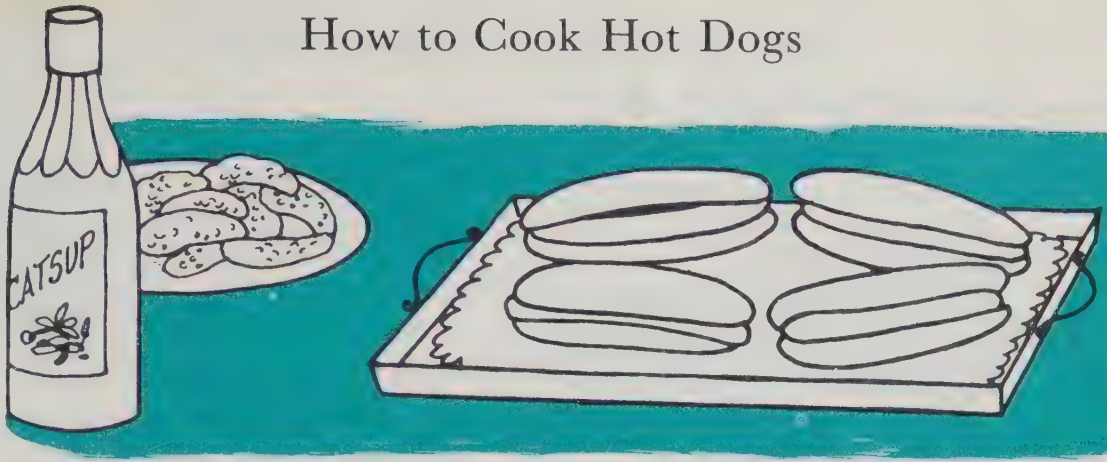
These Utensils:

- Saucepan with handle
- Measuring spoons
- Potato masher
- Measuring cup
- Strainer
- Long fork
- Wooden spoon
- Paring knife



1. Fill an open saucepan with 8 cups of water.
2. Add salt to the water.
3. Place the saucepan over a full flame.
4. While the water is coming to a boil, peel the potatoes and cut them in halves.
5. Put the potatoes into the boiling water one at a time with a wooden spoon.
6. Cook for about 30 minutes or until they are done.
7. Test potatoes with a fork, to see if they are soft.
8. When done, drain off the water, through a strainer.
9. Put the drained potatoes back on the stove over a low flame for a minute, to dry them completely.
10. Take pot off the stove and mash the potatoes with the potato masher.
11. Add the butter.
12. Now mash some more, adding the cream while mashing.
13. Gradually add the milk and continue to mash.
14. Stir the potatoes with a fork until they are fluffy and smooth.
15. Place mashed potatoes in serving dish and garnish with parsley.

How to Cook Hot Dogs



For 4 people you will need:

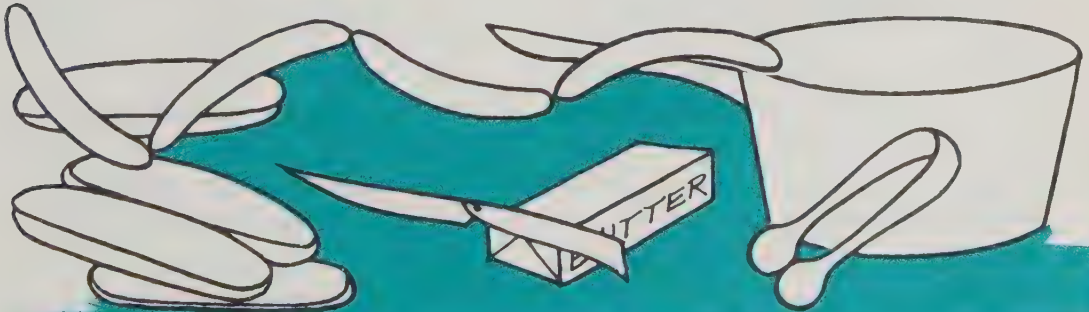
These Ingredients:

- 4 hot dog rolls
- 4 hot dogs
- Enough butter to butter the rolls

And These Utensils:

- Butter knife
- Tongs
- Slicing knife
- Saucepan

1. Put the hot dogs into the saucepan.
2. Fill saucepan three-quarters full of cold water, making sure that the water covers the hot dogs completely.
3. Place the pot over a full flame.
4. Bring the water to a boil.
5. Then lower the flame and cook slowly for 5 minutes.
6. While the hot dogs are cooking, slit the rolls and then butter them.
7. Remove the hot dogs from the water with tongs.
8. Place the hot dogs inside the buttered rolls.
9. Serve with sauerkraut and mustard or catsup and pickles.



How to Make "Candle" Salad

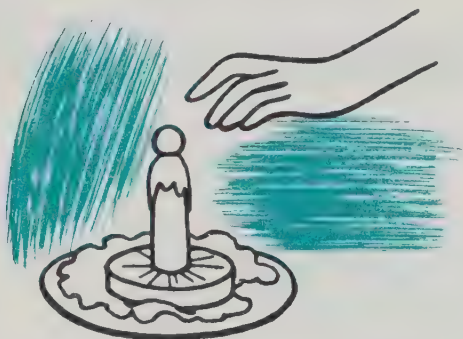
For 4 people you will need:

These Ingredients:

- 4 slices canned pineapple
- 4 lettuce leaves
- 2 bananas
- 4 teaspoons mayonnaise
- 4 maraschino cherries

These Utensils:

- Paring knife
- Measuring spoons
- Can opener



1. Put one lettuce leaf on each plate.
2. Lay a pineapple slice on top of each lettuce leaf.
3. Stand $\frac{1}{2}$ a banana in the hole of each pineapple.
4. Top the banana with a bit of mayonnaise.
5. Put a cherry on top of the mayonnaise.

How to Make Egg and Olive Salad

For 4 people you will need:

These Ingredients:

- 4 eggs
- 1 small jar stuffed olives or 1 can chopped olives (ripe olives if available)
- 4 tablespoons mayonnaise or 3 tablespoons sour cream mixed

with 1 tablespoon ketchup

- 4 large crisp lettuce leaves

These Utensils:

- Can opener
- Measuring spoons
- Saucepan
- Small sharp knife
- Wooden fork

1. Cook the eggs *gently* until hard (about 20 minutes). (Never let the water boil as high heat toughens eggs).
2. Plunge eggs, when done, in cold water. Chill thoroughly.
3. Peel eggs and cut in half lengthwise.
4. Drain lettuce thoroughly and put one leaf on each plate.
5. Put two egg-halves on each lettuce leaf.
6. Mix chopped olives (or stuffed olives cut in thin slices) with dressing.
7. Pour dressing over eggs. (Be sure all ingredients are really cold)



How to Bake Muffins

To make 12 muffins you will need:

These Ingredients:

- 1 egg
- 2 cups flour
- $\frac{1}{2}$ teaspoon salt
- 1 cup milk
- 4 teaspoons baking powder
- 2 tablespoons cooking oil
- 2 tablespoons sugar

These Utensils:

- Spatula
- Muffin pan
- Egg beater
- Flour sifter
- Measuring cup
- Measuring spoons
- 2 mixing bowls

1. Light the oven and set it at 425 degrees or hot.
2. Sift the flour once and measure off 2 cups.
3. Put the flour, baking powder, sugar and salt into a bowl. Mix.
4. In another bowl, beat the egg until fluffy.
5. Add the milk and oil to the egg.
6. Pour the egg mixture into the flour mixture, stirring meanwhile. The dough should be lumpy, so do not stir too much.
7. Grease the muffin pan lightly with butter or margarine.
8. Fill each muffin cup two-thirds full with the muffin batter.
9. Bake 20 minutes at 425 degrees.

How to Make Pancakes

To make 12 pancakes you will need:

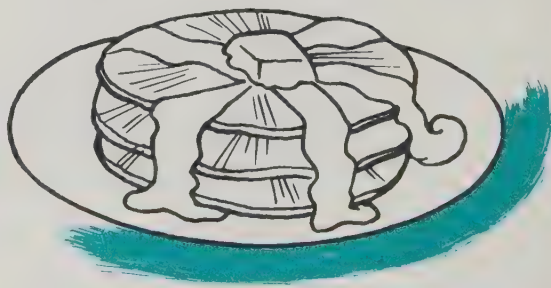
These Ingredients:

- 2 eggs
- 2¼ cups flour
- 1 teaspoon salt
- 2 cups milk
- 1 teaspoon sugar
- 2 tablespoons butter
- 2 teaspoons baking powder



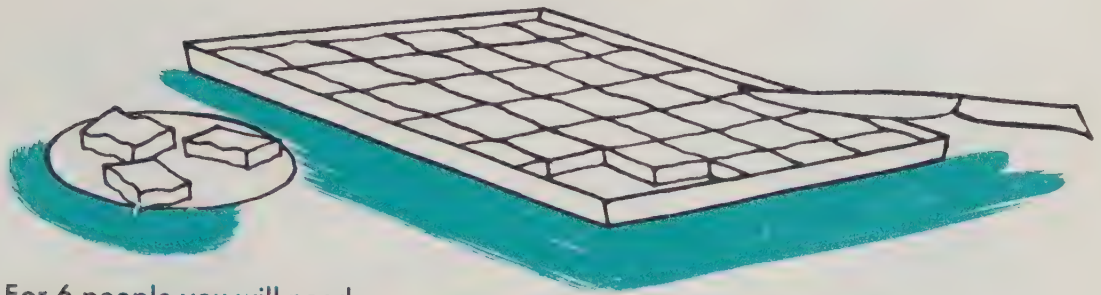
These Utensils:

- Bowls, one large, one small
- Griddle
- Flour sifter
- Measuring cups
- Measuring spoons
- Small frying pan
- Wooden spoon
- Egg beater
- Pancake turner



1. Sift the flour once and then measure 2¼ cups.
2. Put the flour, salt, sugar and baking powder into a large bowl and mix.
3. Break the eggs into a small bowl and beat them.
4. Add milk to the eggs and beat the mixture.
5. Pour the liquid mixture into the flour mixture and stir, but do not mix out the lumps.
6. Melt the butter in a small pan.
7. Add the melted butter to the mixture.
8. Mix well, but do not beat out the lumps.
9. Grease the griddle with butter. Do not use much butter.
10. Put one spoonful of batter on the hot greased griddle—one spoonful for each pancake. Soon bubbles will appear.
11. Turn the pancakes when the bubbles open.
12. When both sides are browned, remove the pancakes from the griddle.
13. Serve with butter and maple syrup.

How to Make Creamy Fudge



For 6 people you will need:

These Ingredients:

- 1 tablespoon corn syrup
- $\frac{1}{2}$ cup milk
- 2 tablespoons butter
- 2 cups sugar
- $\frac{1}{2}$ cup cream
- 4 tablespoons cocoa
- $\frac{1}{8}$ teaspoon salt
- 1 teaspoon vanilla

These Utensils:

- Flat oval dish
- Measuring cup
- Measuring spoons
- Large saucepan with handle
- Knife
- Wooden spoon
- Shallow tin or aluminum pan

1. Put the sugar, cocoa, and salt into a saucepan.
2. Add a little of the cream, enough to make a paste.
3. Now add the remainder of the cream.
4. Add the milk, syrup, and butter and place the mixture over the flame.
5. Stir the mixture with a wooden spoon until it starts to boil.
6. Once it is boiling, reduce the heat. Cook slowly for about 40 minutes.
7. While the fudge cooks, butter a shallow pan.
8. Test the hot fudge by dropping a tiny bit of it from a spoon into a dish of very cold water. When the fudge forms a soft ball, slightly firm outside, the fudge is done.
9. Remove the fudge from the fire. Add the vanilla and mix.
10. When the fudge is cool, stir it until it is creamy.
11. As the fudge gets creamy, you will notice a change in color, from dark to light. At this point, pour the fudge into the buttered pan.
12. When the fudge is almost cool, cut it into 1" squares.

How to Make Stuffed Dates

You will need:

These Utensils:

Flat oval dish
Paring knife
Platter

These Ingredients:

20 dates
20 shelled pecan halves
Granulated sugar

1. Remove the pits from the dates.
2. Put a pecan half into each date, in place of the pit.
3. Roll each date in a dish of granulated sugar. It is nice to roll the dates
4. in different colored sugars, for holiday serving. You can color ordinary granulated sugar by mixing it with a few drops of vegetable coloring. Place a paper doily on a platter, and then arrange the dates on the doily.





How to Make Delicious Hot Cocoa

For 2 people you will need:

These Ingredients:

2 tablespoons cocoa
4 tablespoons sugar
2 cups milk
Pinch of salt
 $\frac{1}{8}$ teaspoon vanilla
2 marshmallows

These Utensils:

Saucepan with handle
Wooden spoon
Measuring spoons
Measuring cup

1. Place 2 cups and saucers on the table.
2. Place a marshmallow in each cup.
3. Put cocoa, sugar, and salt into a saucepan.
4. Add enough milk to the cocoa to make a paste. Dissolve the cocoa in this milk, by stirring with a wooden spoon.
5. Add the remainder of the milk to the mixture.
6. Heat just to the boiling point. That is, as soon as the bubbles appear, turn off the flame.
7. Add the vanilla.
8. Pour the hot cocoa into the cups. The marshmallows will float on top.

How to Make a Refreshing Fruit Punch

For 20 people you will need:

These Ingredients:

- 1 cup sugar
- 2 cups strong hot tea
- 3 pints of ice cubes
- 2 cups of loganberry juice
- 3 pints carbonated water
- 1 cup pineapple juice
- 1 cup orange juice
- 2 cups lemon juice
- ½ cup maraschino cherries
- 1 quart water

These Utensils:

- Sharp knife
- Measuring cup
- Pot with cover
- Large mixing bowl



1. Put the sugar and the tea in a pot.
2. Boil this mixture for two minutes.
3. Add the fruit juices and the carbonated water.
4. Add the cherries, and the ice cubes.
5. Serve in a large punch bowl.
6. You can garnish this punch by floating in it thin slices of orange, thin slices of lemon, thin slices of lime, and small cubes of fresh pineapple or perhaps fresh strawberries.



How to Make a Good Lemonade

For 4 people you will need:

These Ingredients:

- 1 cup sugar
- 3 lemons
- 4 maraschino cherries
- 8 cubes of ice
- 4 cups water

These Utensils:

- Fruit juicer
- Measuring cup
- Saucepan with handle



1. Put the sugar into a saucepan.
2. Add 1 cup of water. Place over the fire.
3. Bring to a boil. Then boil for 5 minutes.
4. Remove from fire.
5. Add 3 cups of cold water.
6. Squeeze enough lemons to make $\frac{1}{2}$ cup of lemon juice.
7. Add the lemon juice, and stir.
8. Place 2 ice cubes and a red cherry in each glass.
9. Fill glasses with lemonade.



Collections



You can take your choice among a great many things to collect, from matchbox covers to rare and expensive miniatures. If you are not quite sure what you want to collect, start with something like autographs or postal cards. You can always change if you find something that interests you more. But, whatever you do, do not save trash. You will only throw it away later. Try to get hold of the rare autograph or the postcard that has some special quality of beauty or interest.

Another suggestion is that you get in touch with other young collectors. You might find a hobby club in your neighborhood. Or you might start one yourself.

Take care of your collections. Have a special place for them so that they will not be scattered about the house and will not gather dust.

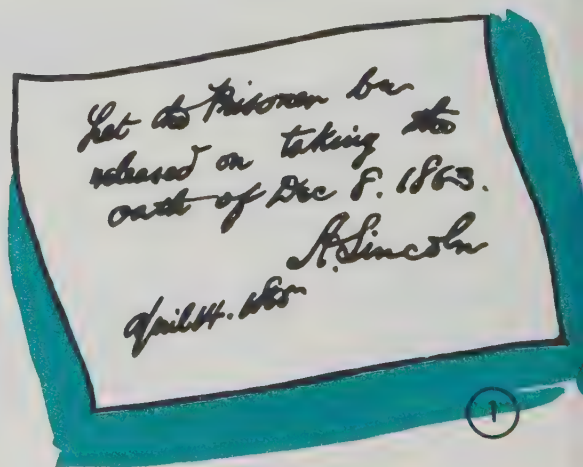
Autographs

One way of collecting autographs is to go direct to the baseball player or actress or writer or whoever the person is whose signature you want, and ask for it. If you can do that, have a fountain pen and autograph book or sheet of

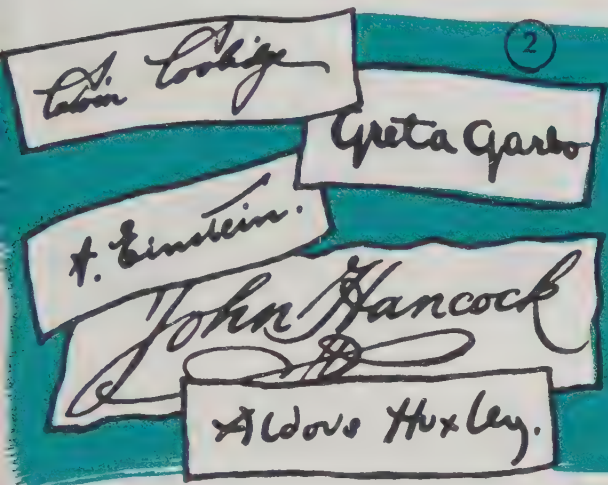
paper ready for the signature when you ask for it.

Another way is to write a letter. Then you must be sure to enclose the sheet of paper you want signed, together with a stamped envelope addressed to yourself.

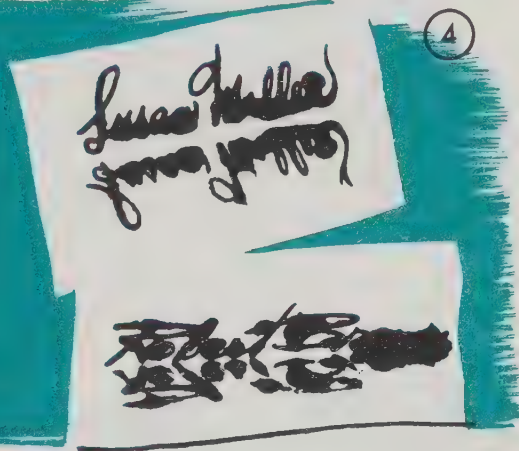
Find out what autographs interest you most, and give your attention to those. You can exchange duplicates with other collectors. You may have an opportunity of coming across one that very few other collectors have managed to find. The autographs of the signers of the Declaration of Independence are very valuable. A manuscript bearing the signature of a well-known writer or statesman may be worth a good deal of money too (Picture 1).



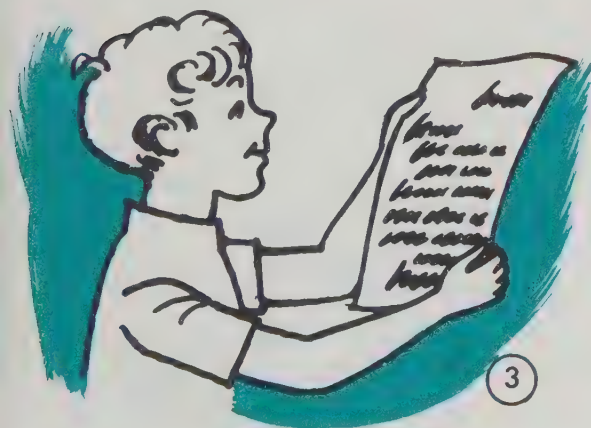
CUT SIGNATURES—These can be bought from a dealer for very little because they are signatures cut from letters or documents. You might find it interesting to buy some of these, and make a study of what each person did to make his or her signature worth collecting (*Picture 2*).



INKOGRAPHS—To make these, first crease a sheet of paper lengthwise. Sign your name along the crease in ink. Then, while the ink is still wet, fold the paper back along the crease. This gives you a double smudge of the signature. Each person's inkograph shows a different interesting pattern (*Picture 4*).



HOLOGRAPHS—A holograph has a special value because it is a complete letter or document, with the signature at the end (*Picture 3*).



Anybody's signature will do for an inkograph. You will enjoy noticing the difference between one inkograph and another. They have no value otherwise.

CARE OF YOUR COLLECTION

Keep your autographs either in separate envelopes in a manila folder or in an album. If you use envelopes, label the outside with the name of the person whose signature is inside. If you decide on an album, fasten the letter or paper bearing the signature to the page with a gummed hinge, the kind used by stamp collectors. (*See page 222 .*) Glue or paste may discolor the paper the autograph is written on.

Animal Miniatures

Tiny animal figures of all kinds are very popular today, and there are so many different kinds that you had better decide beforehand what kind you are going to specialize in, or your collection will soon get out of hand.

Look in the windows of antique shops and inexpensive jewelry stores, and in little out-of-the-way stores that sell imported articles. You will find miniature figures made of glass, wood, pottery, plastic, metal, or even wool or cotton material. Don't spend your money until you are pretty sure what kind of collection you want to go in for.



Suppose you decide on a collection of tiny elephants. You may buy a few to start with. Then if you know someone who is going to Europe or Japan or India or Africa, you can ask your friend to bring you an elephant from that particular country. And of course when your family and friends know you are looking for little elephants, they may give you one or more as a birthday or Christmas present.

As you go on, you may decide you want only animals of a certain size, or animals made only of wood or of ivory. Or you might limit your collection to animals that have been carved by hand. Or you can save only animals found in America, or only those found in some other particular country, or fabulous animals like dragons, griffons, sea-serpents, and other monsters (*Picture 1*).



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CARE OF MINIATURES

Build a display cabinet for your miniature animals. (See page 307 for how to make a cabinet.)

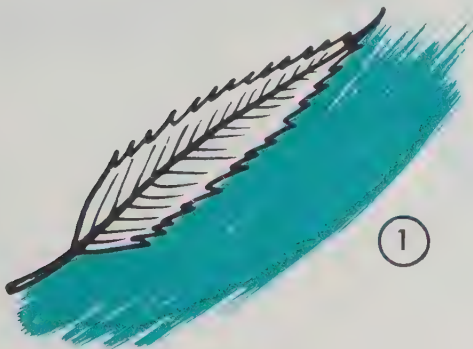
Hang a plastic curtain from the top of the cabinet to keep out the dust. To do this, take a piece of wire and twist one end around a small nail driven half-way into the left top corner. Sew small rings along the top of the curtain. Run the wire through the rings, stretch the wire, and twist the other end of it around another nail in the right top corner. In this way you can draw the curtain aside easily when you want to show your collection to your friends.

Leaves

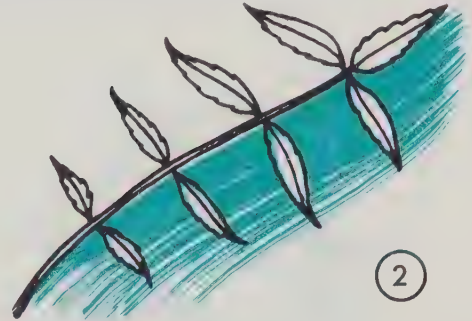
Collecting leaves of different kinds is a good way of learning to tell one leaf from another. When you go to the country or to the park, you will have the fun of being able to name a tree because you recognize its leaves.

There are four different classes of leaves:

1. Simple leaves that grow singly at the end of the leaf-stalk (Picture 1).



2. Compound leaves, made up of many small leaves, or leaflets (Picture 2).



3. Leaves that grow opposite each other at the same point on the stem (Picture 3).

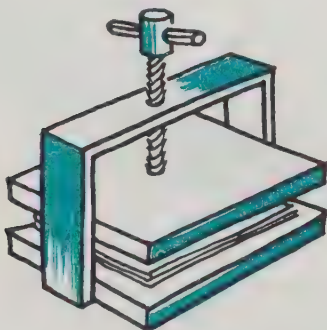


4. Leaves that grow opposite each other, but from alternating position on the stem (Picture 4).



HOW TO PRESERVE LEAVES

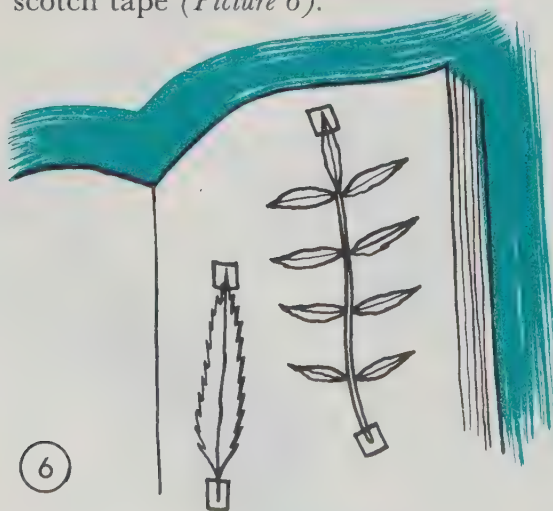
The first thing to do if you want to preserve a leaf is to press all the moisture out of it. You can use a press to do



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this (Picture 5). Or you can place the leaf between clean blotters under a stack of newspapers and a weight. Blotters are good because they absorb the moisture quickly, and the quicker the leaf is dried the better.

Keep the dried leaves in a scrapbook and fasten each leaf to the page with scotch tape (Picture 6).



6

HOW TO MAKE A SPATTER PRINT OF A LEAF

YOU WILL NEED:

- A leaf in good condition
- A piece of wire screening the same size as the leaf
- A sheet of strong paper
- A toothbrush
- India ink

Set the leaf down in the center of the paper. It must lie close to the paper, so put some small weights along the edges. Small pebbles will do.

Dip the toothbrush in India ink.

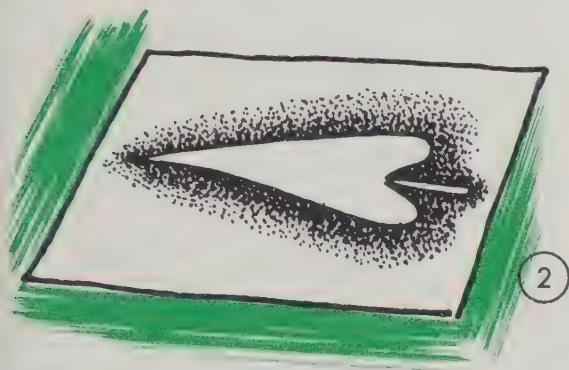
Now hold the screening a little above the leaf. Brush over the screening, around and around, so that the ink spatters all over the leaf and the paper sur-



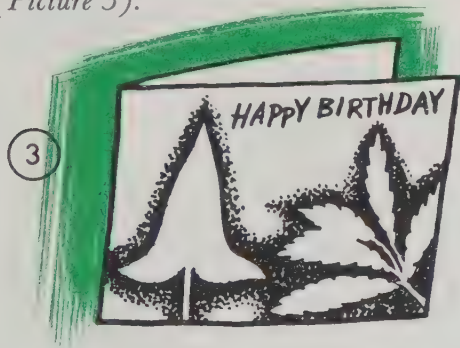
1

rounding it. Spatter the ink more thickly around the edges of the leaf (*Picture 1*).

When the ink is dry lift up the leaf and you will find a print of the leaf on the paper (*Picture 2*).



You can spatter a leaf-print on a greeting card you may be making for a friend's birthday or for Christmas (*Picture 3*).



HOW TO MAKE A SMOKE PRINT OF A LEAF

YOU WILL NEED:

- A leaf in good condition
- Some vaseline
- A candle

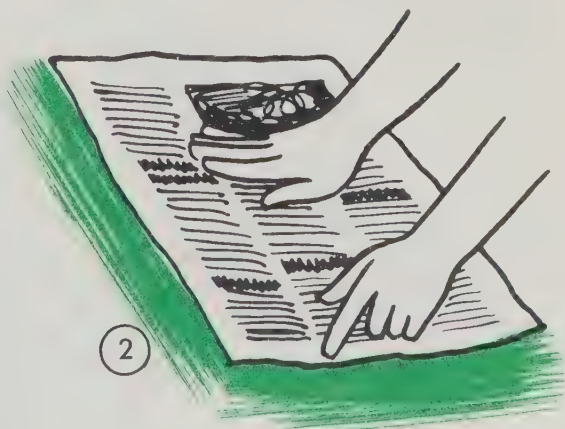
Rub vaseline all over the under side of the leaf. Blacken this under side with soot. To make the soot, use a candle-

flame. Hold the flame under the leaf until the leaf is covered with soot (*Picture 1*). Keep the candle steady, and away from any material that might



catch fire easily, and do not hold the candle too close to the leaf.

Now place the leaf on the paper, sooty side down. Cover it with a piece of newspaper and rub with the side of your hand. Keep rubbing across and up and down (*Picture 2*). When you take the newspaper off and lift up the leaf, you



will find a clear print of the leaf on the paper (*Picture 3*).

outline of the leaf and you will be able to see every rib. Besides, if you use colored linoleum block ink, you can get your print in color. You can buy printer's ink or linoleum block ink at an Art-Craft store.

Pour a little ink onto a sheet of glass and spread it evenly all over the glass, using a blunt knife.

Place the leaf on the inked glass, under side down (*Picture 1*). Cover it with several layers of newspaper and press down on it. Rub with the side of your hand to get plenty of ink onto the leaf.

Remove the newspaper and pick up the leaf. Press the inked side of the leaf onto a clean sheet of paper (*Picture 2*).

HOW TO MAKE AN INK PRINT OF A LEAF

YOU WILL NEED:

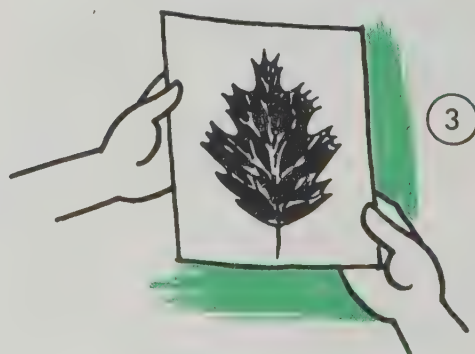
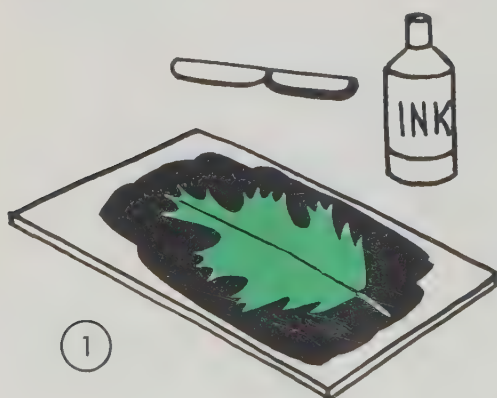
A leaf in good condition

Printer's ink, or linoleum block ink
that comes in colors

What you may like about this way
of printing is that you get a very clear



Cover with newspaper and rub again. Uncover, pick up the leaf, and you will see a clear print on the paper (*Picture 3*).

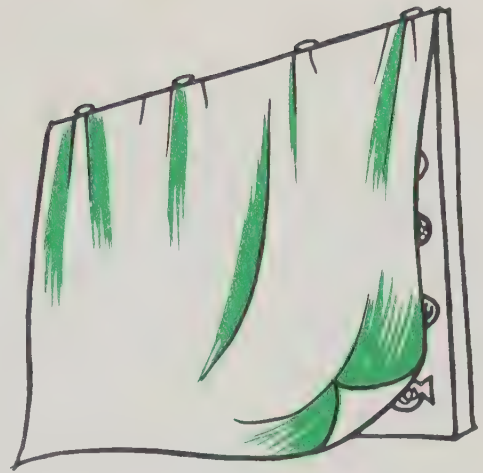


Badges

You will have to look for badges in out of the way places today. They are not so much used now as they were in the last century. But you may enjoy collecting them all the more as rare items. Also they may teach you something about past history.

You can make an interesting collection of badges showing portraits of the political candidates or Presidents of the United States. A badge distributed during the McKinley-Bryan campaign in 1896 would give your collection a special value. There is a picture on it showing both candidates standing one on each side of the White House. You press one lever or the other, and the candidate you choose will move into the White House.

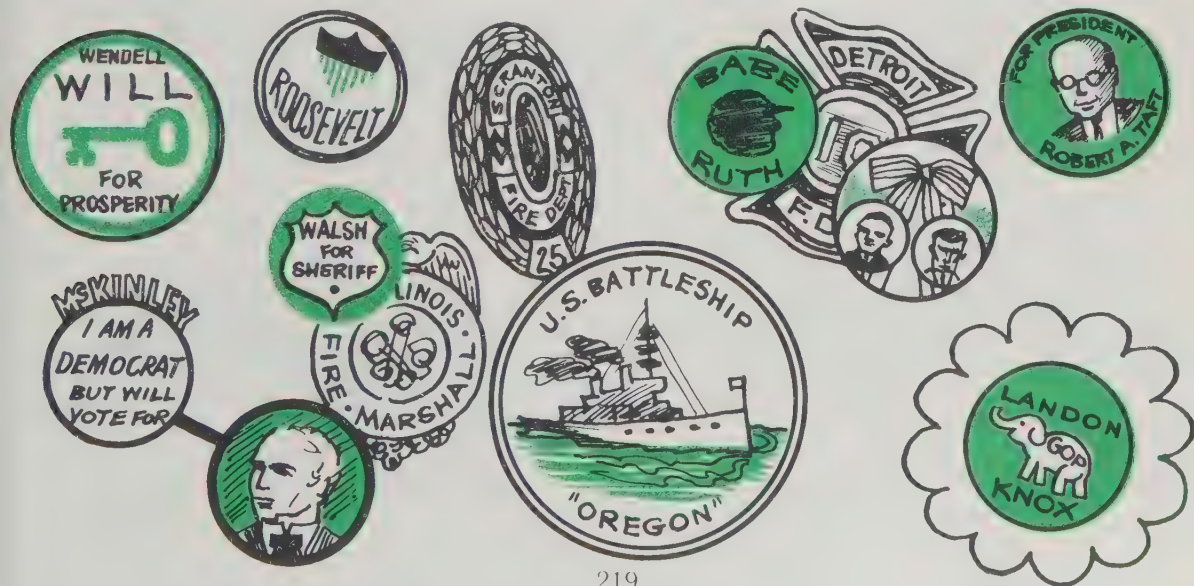
Another collection could be of badges worn during election campaigns in your own State or town.



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Or you might try to find badges that show pictures of famous baseball players of the past.

Display your collection on a board with the badges hanging from small tacks. A cloth or plastic curtain, thumb-tacked to the top of the board, will keep your badges from gathering dust (*Picture 1*).



Stamp Collecting

The first postage stamp was issued in England in 1840. It is known as the "One Penny Black." A few years later stamps called "Postmasters' Provisionals" were issued in some American cities—Alexandria, Baltimore, New Haven, New York and St. Louis. Then, in 1847, the Federal Government passed a law that made it necessary for everyone in the United States to use stamps on letters. So you will see that stamp collecting, which is such a popular hobby today, has not a very long history.

One reason why you will find stamp collecting interesting is that it will teach you a good deal more than just how to collect stamps. You will come to know the names of all the countries in the world; and you will find out something of their history, geography, and customs

from the portraits or landscapes or historical monuments engraved on the stamps.

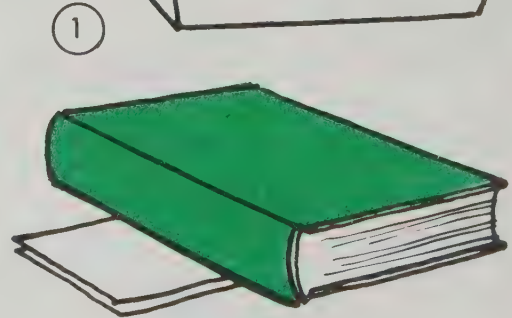
If you are just beginning to collect stamps, it is a good idea to buy a small "packet" of 500 varieties from all over the world. A packet is more expensive than a batch of unsorted stamps, but buying a packet is less wasteful in the end, because it has only one of every kind.

Stamps bought in this way are clean and ready to put right into your album. But as you go on adding to your collection, you will get many dirty ones, and many with paper sticking to them from the envelopes or wrappers they were attached to. Remove the paper and clean them at the same time.



HOW TO CLEAN DIRTY STAMPS

Separate the stamps that need cleaning from the others and soak them in lukewarm water until the bits of paper fall away. Dry the stamps on clean newspaper, but do not handle them more than you can help. If any become creased during washing, moisten them again and dry them between clean white blotters under a heavy weight (*Picture 1*).

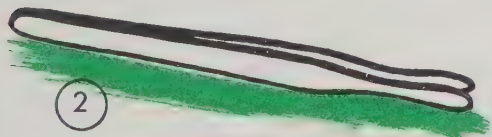


SORTING YOUR STAMPS

Sort the dry, clean stamps into envelopes. See that each envelope has the name of a country clearly written on the outside, and be careful to put the right stamp into the right envelope. To save time, arrange the stamps alphabetically; and sort into envelopes only the ones you recognize. Lay aside the ones you do not know until you have found out where they belong. And while you are sorting throw away stamps that are in poor condition.

HANDLING STAMPS

You will have to examine each stamp carefully before putting it in your album; so after the stamps are cleaned, do not handle them with your fingers, but use tongs. You can buy these from any stamp-dealer. They will last a long time (*Picture 2*).



WHAT TO LOOK FOR IN A STAMP

There are three things you will want to find out about a stamp:

1. The year the stamp was issued.
2. The value of the stamp. Even if you are not collecting stamps to sell and make money, you must know what they are worth because you will be exchanging stamps with your friends or with other people by mail. So you must know

how much your stamps and theirs are worth.

3. The chance that one of your stamps may be a "sleeper." A sleeper is a valuable stamp that has accidentally been mixed with ordinary inexpensive ones.

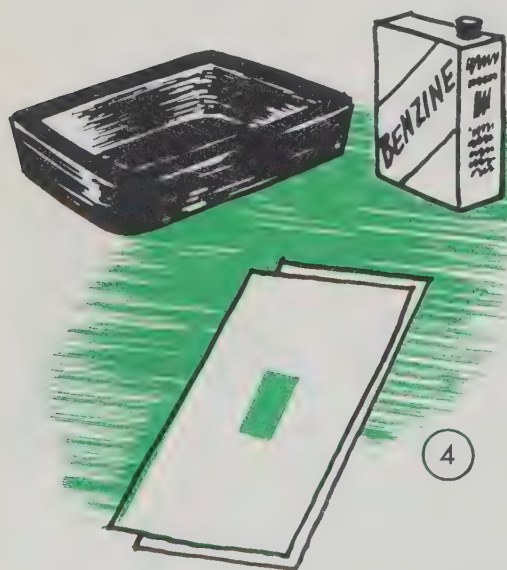
WHERE TO GET INFORMATION ABOUT STAMPS

You will find out just about everything you want to know if you look in the Standard Postage Stamp Catalogue, published by Scott Publications in New York. It contains pictures of all the stamps that have ever been issued, and information about them all. You will find the date your stamp was issued, the denominations that were issued at the same time, the value the catalogue gives both to a new and a used stamp of that kind, and the watermarks and perforations (*Picture 3*).



WHAT A WATERMARK IS

A watermark is made in the paper when it is manufactured. Certain parts of the paper are made thinner than others, and the thin places form a design. A watermark can sometimes, but not always, be seen by just holding up the stamp to the light and looking for it. But it often has to be brought out by a watermark detector. This is a little tray of some *black* material, or of glass set in a black case. Your stamp-dealer will sell you one. Place the stamp in it face down and let a few drops of benzine or cleaning fluid fall on it. (Be careful not to use the liquid near a flame or pilot light.) The watermark will show up as a design in black. Dry the stamp between blotters and do not inhale any of the fumes from the liquid (*Picture 4*).



WHAT PERFORATIONS ARE

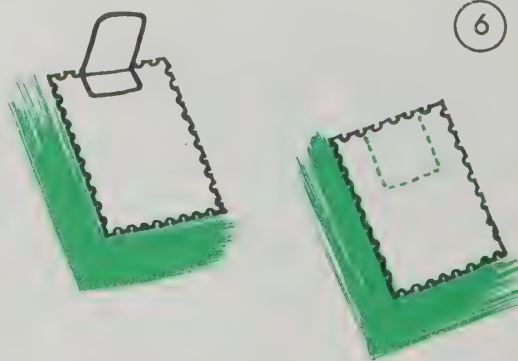
Perforations are simply the little holes or slits between one stamp and another that make it easy to tear them apart (*Picture 5*).



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HOW TO MOUNT STAMPS

To mount stamps in an album use stamp hinges, not glue or paste. Hold the hinge with the gummed side away from you. Fold back about a third of it from the bottom. Moisten this part and stick it close to the top of the back of the stamp. Stick the remaining part of the hinge to the space marked for the stamp in your album, behind the stamp, so that the hinge does not show (*Picture 6*).



HOW TO BE A STAMP SPECIALIST

Being a specialist in stamps means you collect only certain kinds of stamps. You can specialize in stamps engraved with birds, flowers, and animals, with railroad trains, ships, famous men and women, and many other designs.

Another way of specializing is to collect "covers." That is, save the whole envelope, not only the stamps that come with it. You can trace the whole route followed by the envelope after it was mailed, and sometimes this can take you over quite a large part of the world.

Sports lovers may like to make a special collection of stamps issued by different countries in honor of some game or sport. In 1937 a stamp was issued by Greece worth 50 lepta (about ten cents in American money). It shows a picture of Diagoros of Rhodes, who was an Olympic Games champion about 2,000 years ago.

When Los Angeles was chosen as the city where the Olympic Games were to be held in 1932, the United States issued two stamps in honor of the event. One shows a runner at the starting-point of a race, and the other is a picture of a discus thrower.

In 1948 the Netherlands issued a stamp showing a child paddling a canoe.

Hungary's 10 filler (about half-a-cent) stamp in 1950 has a picture of a woman in the graceful pose of a diver taking off from a springboard.

One of the most interesting of all is probably the 1939 Baseball Centennial issued in the United States to celebrate the one-hundredth anniversary of baseball.

HOW TO COLLECT FIRST-DAY COVERS

First-day covers are envelopes stamped and postmarked with the date the stamps were issued. If you want to collect these, look at your newspaper and find out where and on what date a new issue is going to be on sale. Send an envelope with your own name and address on it to the Postmaster of the city that is going to issue the stamps you want. Write in pencil on this envelope the number of stamps you are buying. Write "2" or "4" or whatever the number is in the top right-hand corner where the post office clerk will place your stamps. Then put this envelope into a big one, together with the money for the stamps and a note saying "First-day service please." Don't forget to put stamps on your big envelope.

Here are some suggestions for other collections you can make:

- Unusual bottles and stoppers
- Boxes made of different materials
- Buttons
- Match-folders
- Postcards
- Shells
- Pebbles and stones
- Ferns of different kinds, dried and pressed.



Typical Collections by a Stamp Specialist

Trains



Sports



Animals



Flowers



Birds





Drawing and Painting



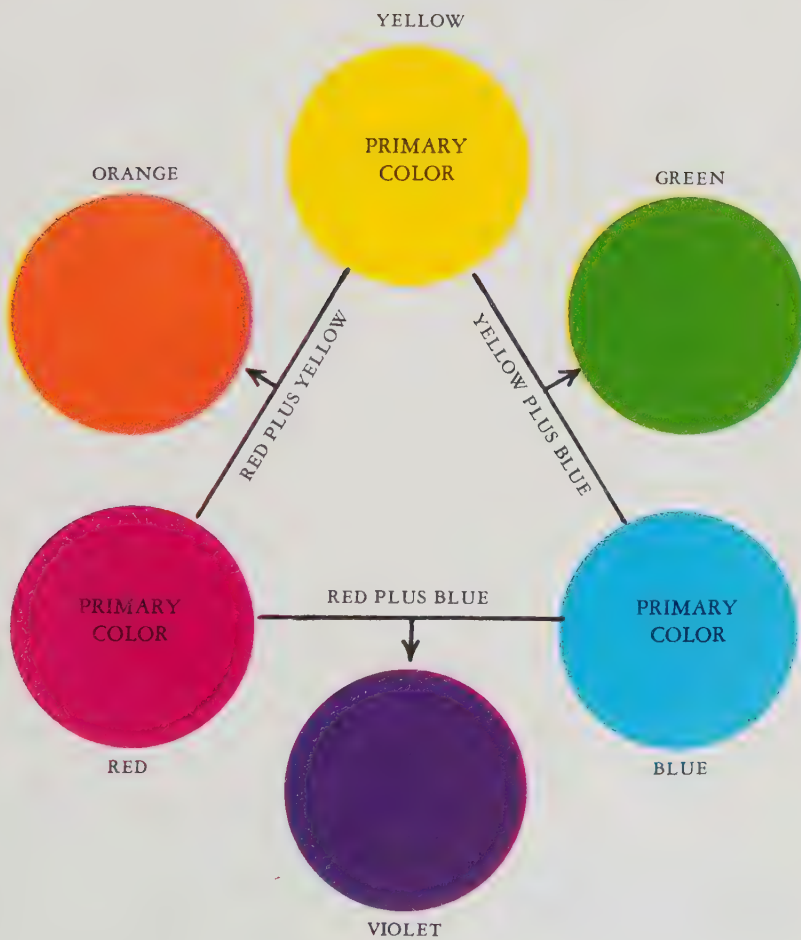
When you are still quite little, you like to play with paints and crayons and clay and plasticine. You see these things in every dime store you go into. If you had some of them at home, you think, you would paint pictures of your dog or a boat or the house you live in. You would make models of little clay animals. Then one day your Mother buys you a box of crayons, or you find a box of paints or some plasticine under the Christmas tree. You are very happy, and you start playing with them right away. You feel you will never be tired of this new exciting game.

You can stand and draw with chalk on a blackboard. Or you can draw on paper tacked to an easel or a wallboard. Or you can sit at a low table and draw with a soft pencil or crayons. (*Picture 1*).

Color

You see a great many colors around you—in the flowers, the trees, the sky, and the earth. But the only time you see all the colors together in nature is when you see the rainbow. It may be that the beauty of the rainbow in the sky was what first started people trying to make colors themselves, on cave walls, fifteen thousand years ago. They saw the seven colors in the rainbow and wanted to find a way of reproducing them for their own use. That may have set them searching. At any rate, we know they did find, deep underground, a powdery coloring matter embedded in the rocks. This is what we call pigment. The coloring matter found in some plants and insects is also known as pigment.





Pigments do not provide all the colors of the rainbow. They give you only three colors — the primary colors. But from these you can make all the others. The primary colors are red, blue, and yellow. If you want green you can get it by mixing blue and yellow. If you want a violet or purple color, mix red and blue. If you want orange, mix red and yellow.

HOW TO MAKE YOUR OWN COLORS

Try to make the three primary colors yourself. An easy way is to make dyes. Make a red dye, a blue dye, and a yellow dye.

To make a red dye, take a piece of red crepe paper and two cups of water in a bowl. Soak the red crepe paper until all the color has come out into the water. Just squeeze out the wet paper and throw it away, because all you need is the clear red liquid left in the bowl.

Do exactly the same with blue crepe paper in another bowl of water, and with yellow crepe paper in the third bowl. You now have three bowls of dye, one red, one blue, and one yellow.

(See Color Plate between pages 228 and 229 .)

MIXING COLORS

This is how you can make three more colors:

Take three empty glasses. Pour about half a cup of your red dye into one of the empty glasses. Pour half a cup of blue dye into the same glass. Look what has happened! The two colors, mixed

together, have made a new color — purple.

In the second glass do the same with your blue and your yellow dye. What color have you now? Green, isn't it?

In the third glass mix your red dye and your yellow dye, and you will have a new orange color.

The seventh color of the rainbow is called indigo. You can make it too by mixing red and blue as you do for purple, but with more blue than red.

So now you can dye your doll's clothes seven different colors. And you have made all these colors yourself.

(See Color Plate between pages 228 and 229 .)

In the color chart, lines are drawn connecting yellow with violet (or purple), orange with blue, and red with green. *(See Color Plate between pages 228 and 229 .)* These pairs of opposites are called complementary colors. This means that when you mix violet with yellow your yellow becomes grayer, less brilliant. It even looks darker. The same thing happens to your blue when you mix orange with it, and to red when you mix green with it. These complementary colors look right if you use them next to each other.



COLORING WITH CRAYONS

You will find brown wrapping-paper makes a good background for pictures colored with crayons. You might begin by drawing the outline of a house or a dog or a rabbit. Then put in the color with big broad strokes. If you leave little spaces where the brown paper shows through, it doesn't matter. Look at it. Don't you like it better that way? (*Picture 2*).



Painting with Your Fingers

Ask your Mother to buy you a jar of finger-paint so that you can paint without a brush. All you need besides the finger-paint is a sheet of wrapping-paper and a pan of water.

When you paint with your fingers, you must put on an apron to protect your clothes. Put newspapers or a piece of oil-cloth on the table and on the floor, enough to go under the table and your chair too (*Picture 3*).



Wet the paper all over first. Then take a teaspoonful of paint from the jar and spread it with your hands till the paper is all covered (*Picture 4*).

Now you can start finger-painting. Make lines down and across the paper. Smooth them out with your hands and make a new set of lines or shapes. Draw a dog or a cow or a house, or a table and chair, or anything else you like (*Picture 5*).

Dry your drawings by leaving them for a while on a newspaper.



Painting with a Brush

There are three kinds of paint you can use for painting with a brush. You can get them at a paint store or hobby store. These three kinds of paint are:

1. Water-color paint. This is the one you will probably use to begin with. It is made by mixing finely ground pigment with water.
2. Oil paint. This is pigment not quite so finely ground, mixed with linseed oil.
3. Casein paint. This is pigment mixed with something called casein that is found in milk.

WATER-COLOR PAINTING

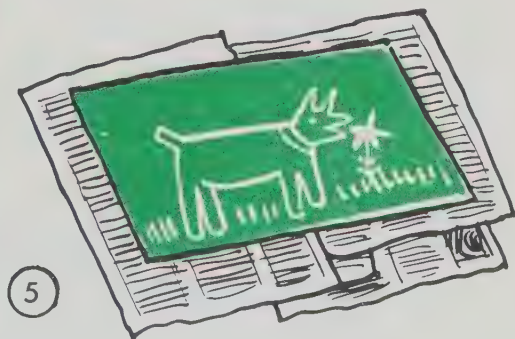
You need a brush, a little pan of water, and some pans of different-colored water-color paint (*Picture 6*).

Begin your picture by using only the primary colors—red, blue, and yellow.

Dip your brush into the pan of water. Then dip it into the pan of red paint.

Sweep your brush across the middle of your paper.

Wash your brush and dip it into the



yellow paint. Make another sweep with your brush above the red streak.

Wash your brush again and paint with the same sweeping line in blue to the top of the paper.

What does it look like? Isn't it something like the way the sky looks after the sun has just gone down?

What picture do you want to paint underneath? Trees? Fields? A house? A child in a blue sweater? Or what?

The house can be red brick, and you can have some white chickens for the little boy or girl to feed. There can be two or three black or blue birds flying in the sky, or maybe a black dog or a black cat or a red cow in the fields. If you have no black or white paint cut these out of paper and paste them on.

Then your picture is finished.

(See *Color Plate between pages 232 and 233.*)

MIXING PRIMARY COLORS TO MAKE NEW COLORS

Mix your paints on a clean white plate.

Just as you made a green dye by mixing a blue dye with a yellow dye, you can make green paint by mixing blue paint with yellow paint.

Put a little blue paint on your clean plate with your brush. Dip your brush in water to clean it. Then put a little

yellow paint on the plate. Mix the two colors with your brush. Add more yellow or more blue until you get the green you want.

Mix blue and red in the same way to make purple. And mix red and yellow to make orange.

If you want a paint of a lighter shade than the one you have mixed, add a little water to the color on your plate.

Now you will be able to make green paint for trees or fields, and light blue for the child's sweater. And, for the road leading up to the house, you can mix a reddish-purple. You have seen dirt roads that look purple, haven't you?

WASH PAINTING

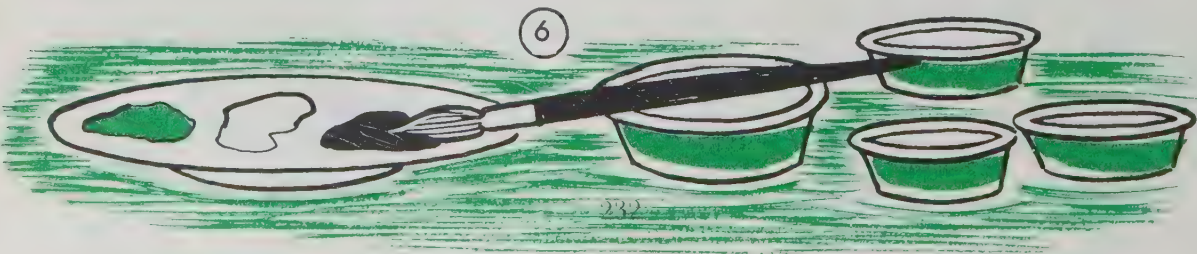
You can make one color fade into another color by using a watery paint on your brush. This is called a wash.

Begin painting the sky blue at the top of your paper, and use more water and less paint to make the sky paler and paler until it becomes nearly white at the horizon.

Paint a grassy bank. See if you can use your brush lightly enough to make wisps of grass stand out against the pale sky.

Use a wash to paint flowers and fruits too.

(See *Color Plate between pages 232 and 233.*)





WASH PAINTING — SKY AND GRASS



Printing in Color

You can use the colors you have learned to make to print in color too.

Printing is quite easy. Have you seen the man in the post office stamp the date, or the words "First Class Mail" or "Special Delivery" on a letter? Well, you can stamp color designs on cloth or paper in the same way. All you need is color, a pad which you moisten with the color, and a printing stick.



PRINTING WITH A POTATO

You can practise printing with a potato printing stick. Cut a large potato in half. Then, with a pen and ink, *not* a pencil, draw a square in the middle of the cut side. Take a small kitchen knife and cut the lines you made with your pen. Go on cutting away all of the potato to a depth of about half an inch, leaving only the square standing up in

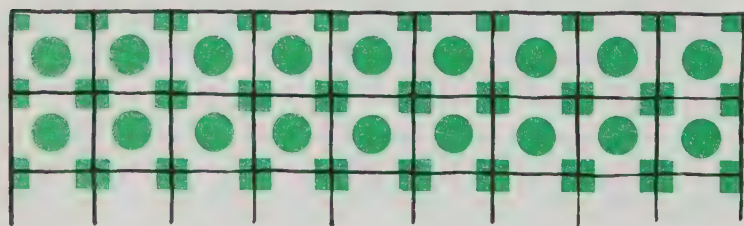
the center. If you are too young to use a knife, ask your Mother to do the cutting for you. What you have made is a stamp for printing squares (*Picture 1*).

You can make other designs of your own, using corks or art gum erasers as printing sticks. Dowels of various sizes are useful for making rounds or dots (*Picture 2*).

The erasers on the ends of pencils can be used to print repeating designs. You can buy pencils with round or square erasers. Pick the largest you can find

and cut them into different shapes (*Picture 3*).

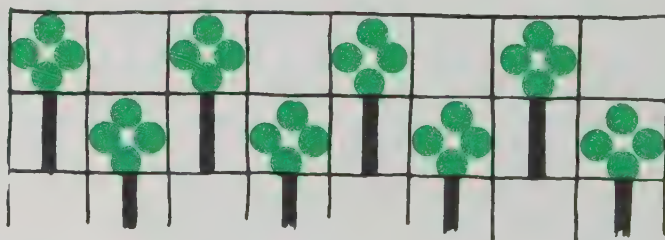
On paper ruled in squares print a round in one square, then four tiny squares, one at each corner of the ruled square. Repeat these two shapes to the end of the paper (*Picture 4*). Or you can print flowers—four rounds for petals and a stem below (*Picture 5*). You will enjoy thinking up designs of your own. Very soon you will be able to decorate doll's clothes, curtains for a doll's house, or gift boxes and packages, using your own printed designs.



4



5



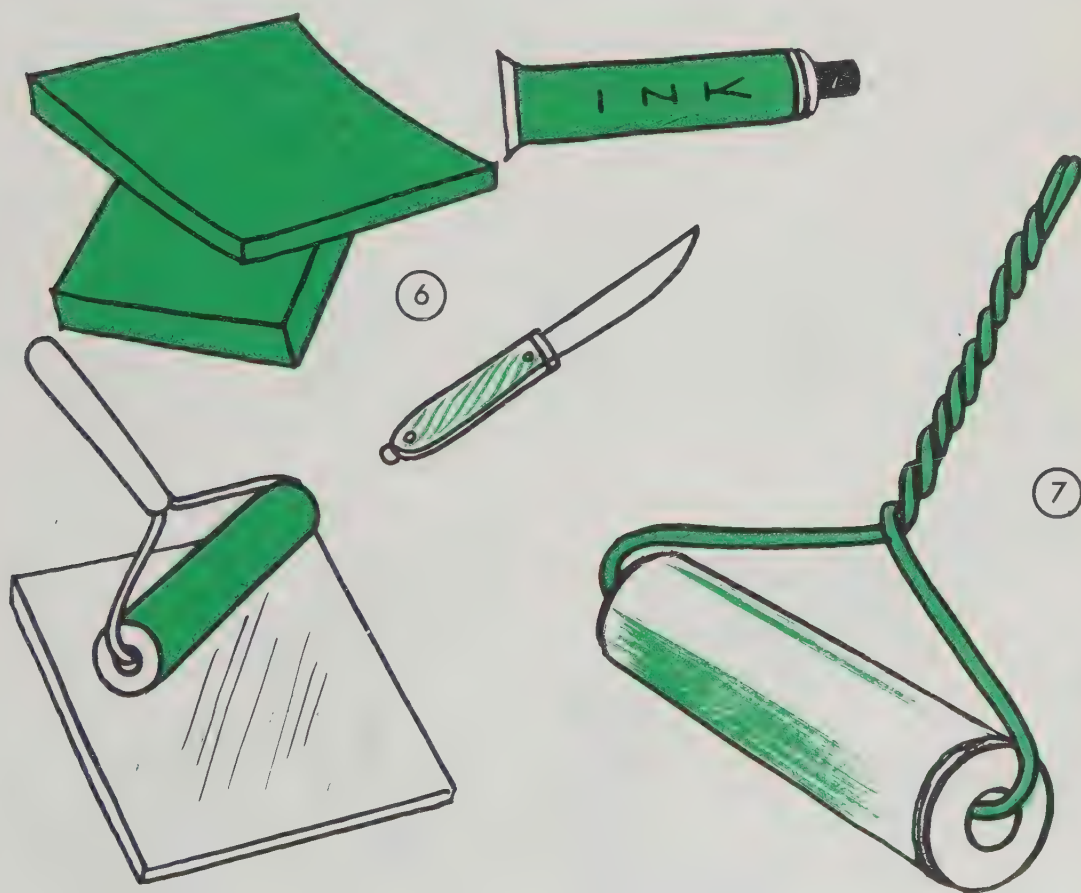
LINOLEUM PRINTING BLOCKS

This is a different way of printing from 'stamp' printing. You need some pieces of linoleum, a roller, a sharp penknife, a glass plate, and some linoleum block printer's ink that comes in tubes in all colors. You can buy these at an art color store (*Picture 6*).

If you do not have any pieces of linoleum at home, ask at a store where linoleum is sold and you will probably find someone who will give you a few scraps.

Remember oil-cloth will *not* do. You can buy a roller, but you can make one instead if you like. The roller part can be one of those little wooden handles for carrying packages. Take out the wire ends. Glue two thicknesses of chamois leather around the roller. Sand with fine sandpaper. Make a handle out of a wire coat-hanger (*Picture 7*). (You may need some help with the bending and cutting of the coat-hanger).

Draw on white paper the design you want to print. It can be one you make



up yourself or something copied from a book or magazine. Use one of the pictures shown on this page, if you like (*Picture 8*).

Trace your design on tracing paper. (*See page 400 for Tracing Directions.*) You want it to appear backwards on the linoleum, so you must lay your tracing on it face down. Outline the tracing with pin pricks so that the pricks go through the paper and mark the linoleum. When you lift the paper the design will appear, backwards, on the linoleum (*Picture 9*).

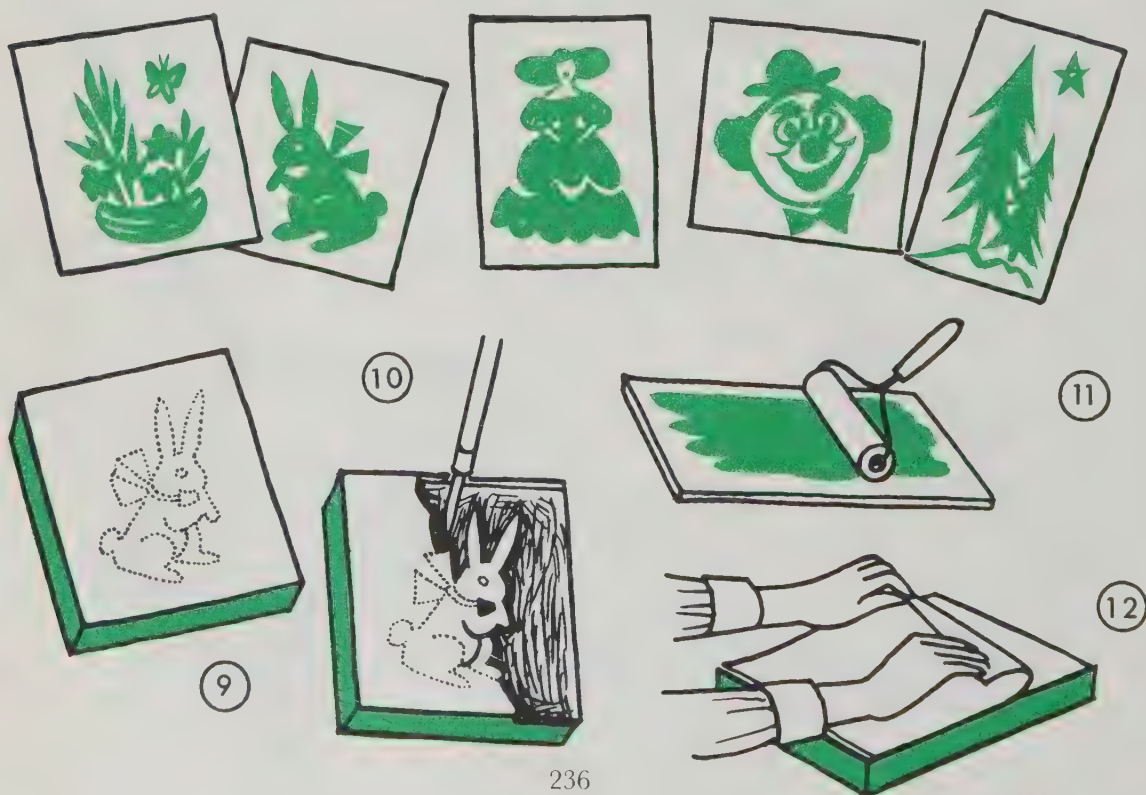
Now start cutting away the linoleum you don't want. Instead of a penknife, you can sharpen the back of a penpoint, stick it into the penholder back-

wards, and cut with this home-made gouge (*Picture 10*).

When you have cut away all the linoleum surrounding it, your design has to be inked. First ink your roller. Squeeze a little from the tube onto the glass plate and roll your roller over it (*Picture 11*). Test the evenness of the ink on a piece of paper. Now run the roller over the surface of your linoleum design.

To print your design on paper, lay each sheet of paper carefully on the inked surface, rub with several thicknesses of cloth. Then lift the paper off. (*Picture 12*).

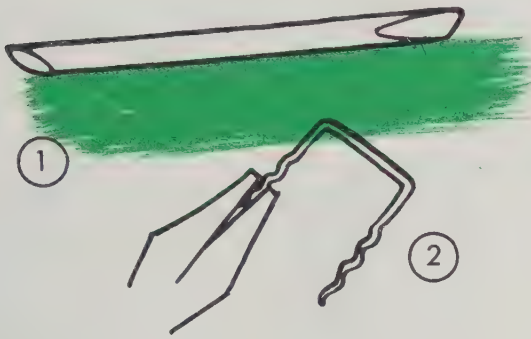
You can take many prints from the same cut, enough to make Christmas cards for all your friends.



Modeling

TOOLS FOR MODELING

Your tools can be quite simple to start with. Use orange-sticks (the kind your Mother uses to manicure her nails). If one of these has a blade-shaped end, use the blade for reaching places that are too small for your fingers to go into. This blade will also be good for smooth-

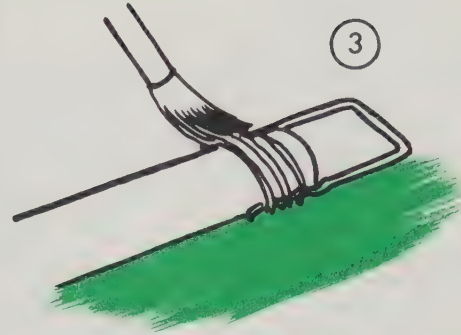


ing out work that is too rough (*Picture 1*).

You should also have a wire tool for rounding the sides of your sculptured figures. You can make this out of two bobby pins, some strong thread, household cement, and a 6" dowel stick cut from the straight part of a wooden coat-hanger.

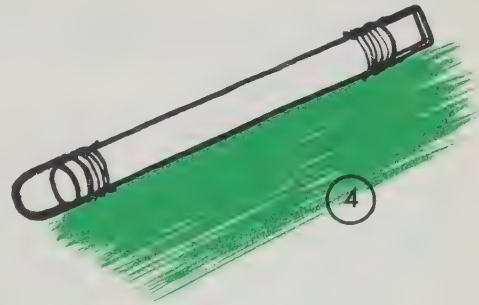
This is how to make two good wire tools in one:

1. Coat the end of the dowel with cement—about an inch.
2. Bend one of the bobby pins so that the end is square. Use a pair of pliers (*Picture 2*).



3. Fit the bobby-pin over the cemented end of the dowel.
4. Wind thread tightly around the bobby-pin and the dowel, and coat them with cement (*Picture 3*).
5. Bend the other bobby-pin so that the end is rounded. Cement it and bind it with thread to the other end of the dowel (*Picture 4*).

You should also have a short, thick dowel with a rounded end for pressing the clay to soften it, and to model things



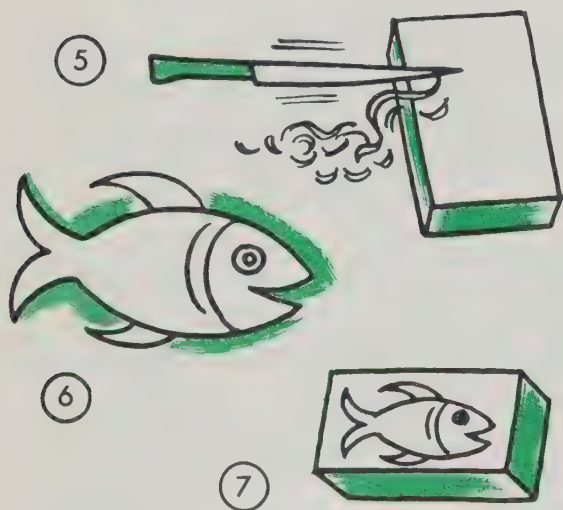
that have a flat shape. The sawed-off end of a broomstick would do. Get some man to saw it for you if you are too young to do it yourself.

SOAP SCULPTURE

You need a big bar of white soap, a penknife, and a pin.

Scrape the surface of the soap with the knife until it is perfectly smooth (*Picture 5*).

Draw a design on tracing paper. Choose a simple animal to start with—a duck or a fish (*Picture 6*). Lay the tracing on the cake of soap, and with your pin prick out the design, so that it is completely outlined on the face of the soap (*Picture 7*).



Cut away the soap you don't want with your penknife, and be careful to leave a little space around the design.

If this is the first time you have tried modeling in soap, cut only a little way down into the bar of soap. This is called modeling in relief (*Picture 8*).

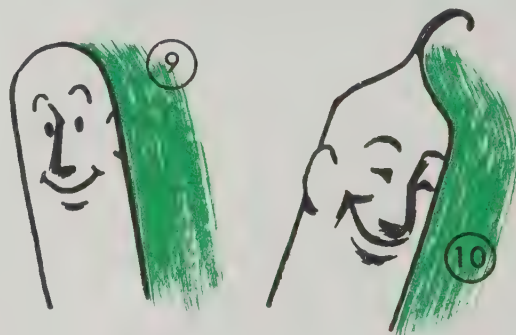
Round off the sharp corners and rub with your fingers to make your sculpture glossy.



CHALK AND CANDLE MODELING

Faces and figures can also be carved out of sticks of chalk and ordinary candles.

Work slowly and with a small pointed penknife when you are carving chalk, or



it might crack. Use a pin to make the eyes, lips, and ears (*Picture 9*).

Use the same kind of penknife to make a wax model. A candle-wax head can be made as funny as you like. Leave the wick sticking up like a tuft of hair on a bald head. Make the mouth big and the lips curved up or down and the nose rather flat. Don't carve the back of the head at all. Rub with a paper napkin, then polish with your fingers (*Picture 10*).



CLAY MODELING

Choose the color of plasticine or clay you like best and buy a pound of it.

To model a bear like the one in the picture, take a lump of softened clay and roll it around in your hands until it looks something like the body of the bear (*Picture 1*). Do the same with a small lump to make the head (*Picture 2*). And the same with four smaller pieces for the feet (*Picture 3*).

Join head, body, and feet with toothpicks (*Picture 4*).

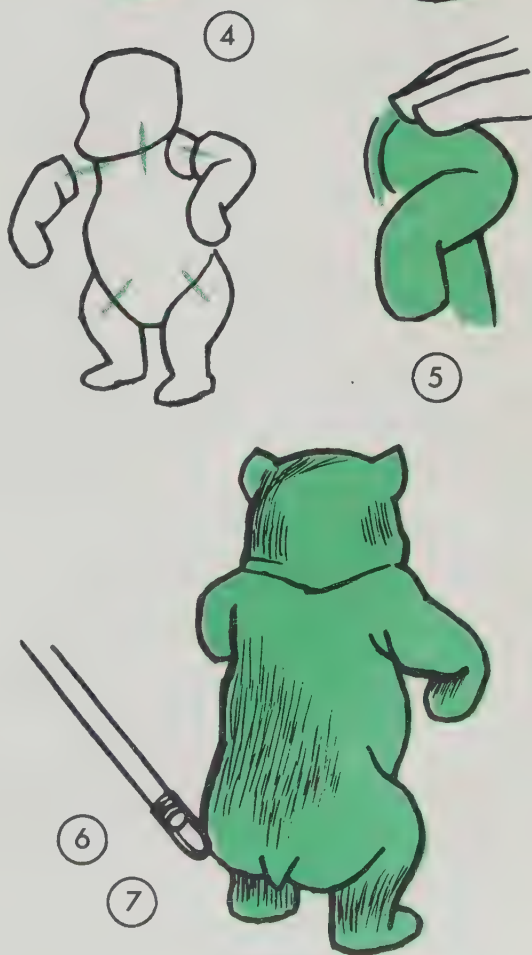
Cover the toothpicks with clay, and smooth the joints with your fingers (*Picture 5*).

Stick bits of clay on each side of the head for ears, and another bit where the tail comes (*Picture 6*).

With your orange-stick tools carve out eyes, nostrils, and a wide mouth.

Your wire tool will be useful for cutting away clay to shape the back and under-side of the animal's body, and its legs and tail (*Picture 7*).

You can model other animals and birds and fishes and people the same



way. A vase is an easy thing to make (Picture 8). First flatten out a round of clay with your dowel tool and your fingers for the base of the vase. Then roll six or seven rings to fit onto it (Picture 9). Set one upon another, then smooth out the joints with your fingers (Picture 10).

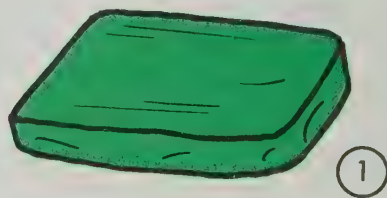


a smooth surface (Picture 1). Press a key, if that is what you want to use, into the clay. When you take the key out, you have a mold of the key in clay. You are now ready to fill the mold with plaster.

To mix the plaster, first pour a little water into a tin can. Sprinkle a little plaster over the water, then more until it shows above the water. Stir slowly. Be careful not to beat it because if you do air will get mixed with the plaster. It must be just thick enough to pour.

Pour the plaster into the mold until it almost runs over. Run the edge of a ruler over the surface to remove any surplus plaster (Picture 2).

When the plaster is quite dry, take it out. It will be an exact duplicate of your key.

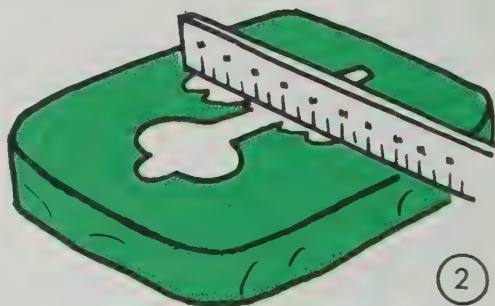


Plaster Casting

If you want to have a duplicate of some object—a key or a badge, or even your own hand or foot—you can make a cast of it in plaster of Paris.

Plaster of Paris hardens very quickly. Use it as soon as it is mixed, and make only as much as you need for one casting.

Have ready a block of soft clay with



Pipe Cleaner Figures

Twist pipe cleaners to make animals or little people.

The pictures show you how to do this. Bend two pipe cleaners into hairpin shapes (*Picture 1*). Put them together so that the ends of one make the front legs of an animal and the ends of the other make the back legs (*Picture 2*).

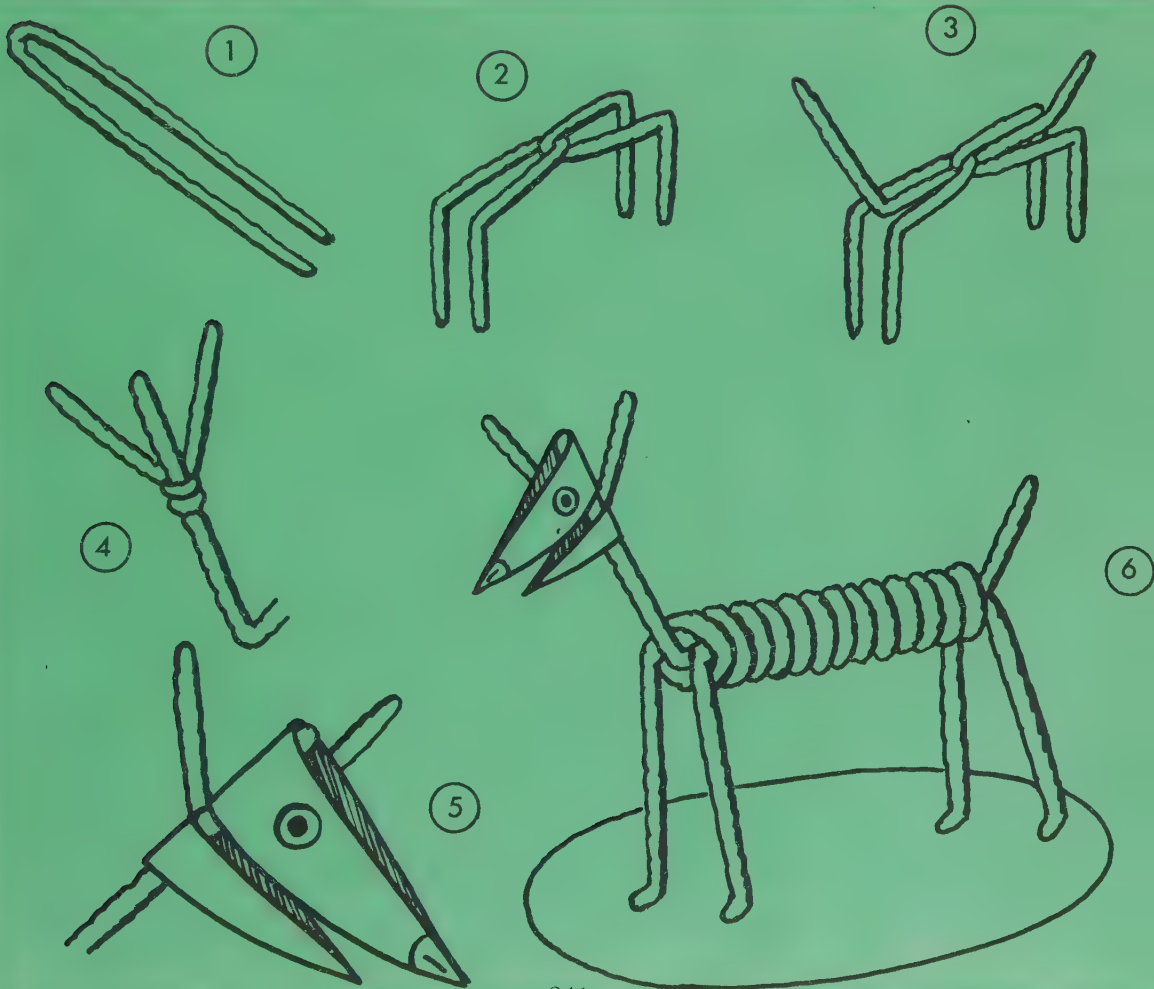
Use another pipe cleaner to make a tail and neck (*Picture 3*).

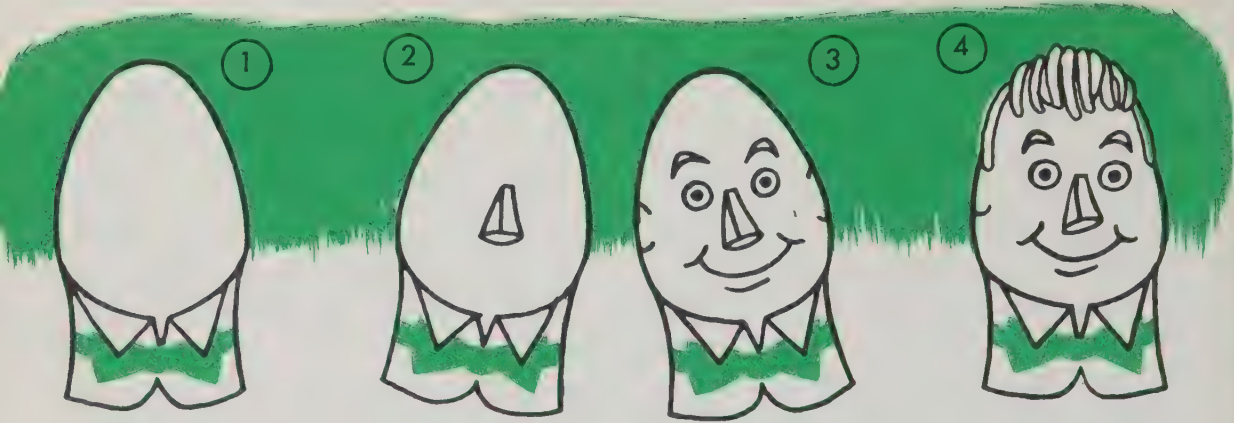
Bind the body around with another pipe cleaner.

A small piece of pipe cleaner tied around the neck makes ears (*Picture 4*).

Turn down the end of the neck for a head, or glue on a cardboard face and color it with crayons (*Picture 5*).

If you would like your pipe cleaner figure to stand up, glue its feet to a round of cardboard (*Picture 6*).





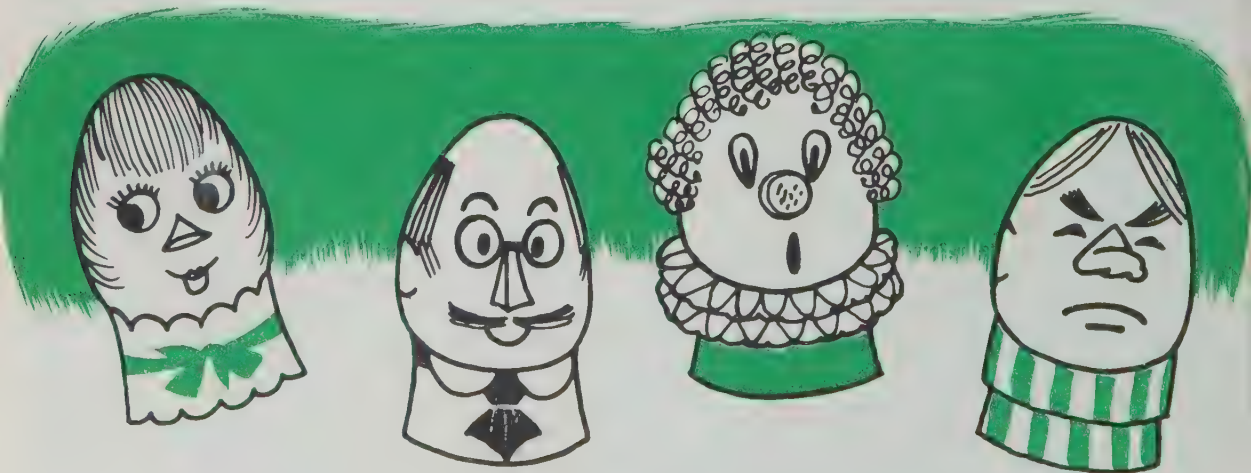
Egg Heads

You will have to blow an egg before you can use it to make a head. To do this, make holes with a pin at the top and bottom of the shell. Make the holes just deep enough to go through the membrane or skin that covers the inside of the egg. Now blow into one of the holes. The egg will come out at the other hole and you can catch it in a bowl, unbroken.

Make a stiff collar out of cardboard.

Glue the collar on to the bottom of the eggshell (*Picture 1*). Turn the collar down at the corners and tie a piece of ribbon around it, with a bow in front.

If you can, whittle a nose out of soft wood and glue it on (*Picture 2*). If not, a piece of cork will do. Paint eyes, ears, and mouth (*Picture 3*). Either paint hair, or glue bits of knitting wool on to the head (*Picture 4*).



Animals out of Odds and Ends

Use pipe cleaners, corks, nuts, pine cones, toothpicks, and anything else you think will help to make figures of people and animals.

Make a dragon with a big clay body, a pipe cleaner neck and tail, and a peanut for a head (*Picture 1*). You can even add scales to its back with cut-out cardboard, glued on (*Picture 2*).

Or make an ostrich with a big cork

body, pipe cleaner neck, toothpick legs, and a hazel-nut for a tiny head (*Picture 3*).

A pine-cone will make a turkey's body. Cut the tail and wattles out of paper and make pipe cleaner legs (*Picture 4*).

Use glue or household cement to fasten all the parts together.

Draw faces with a pencil or crayon (*Picture 5*).



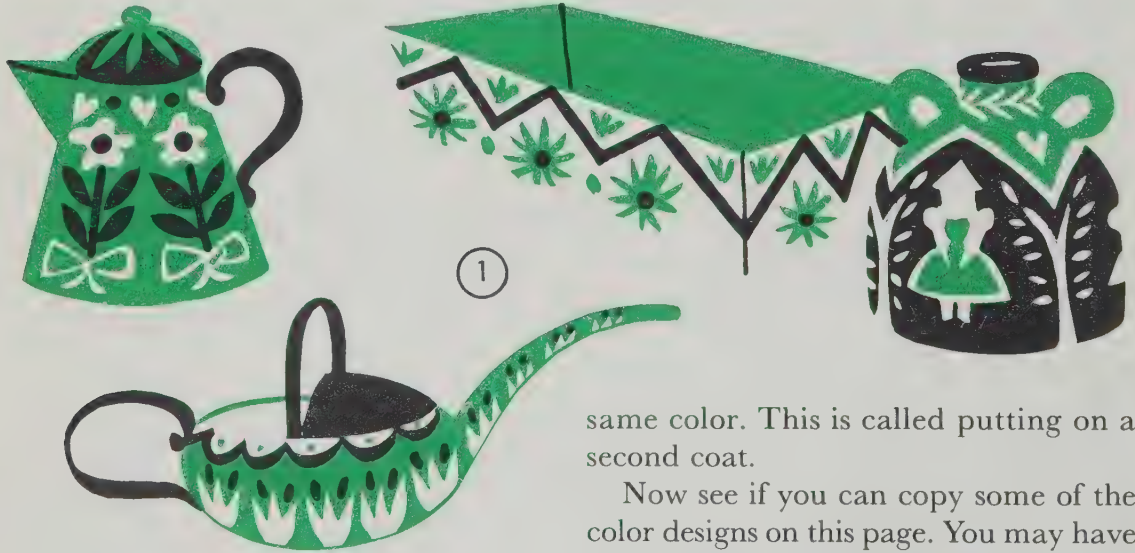
What to Decorate with Paint

HOUSEHOLD ARTICLES

You know how fresh and new you can make an old box or tray with a coat of paint. But have you ever tried painting designs on that new painted surface? You will find you can make ordinary household articles into beautiful objects the family will enjoy having in the living-room or kitchen.

Here are some pictures — an old-fashioned coffee-pot, a jug, a watering-can, a window-box (*Picture 1*). These

wool, any paint that may have been put on before (*Picture 2*). Paint it whatever color you want for a background. Let it dry overnight and paint it again the



ordinary things will look very pretty painted and decorated with old Pennsylvania Dutch designs.

Look around the house and see if you can find some old cans or trays to paint and decorate.

First clean the surface of the article and take off, with sandpaper or steel

same color. This is called putting on a second coat.

Now see if you can copy some of the color designs on this page. You may have to make them larger to fit into the spaces you want to decorate. Use artists' oil color and turpentine, adding a few drops of dryer from the paint store. And use a small brush.

When the paint is dry, varnish it all over, twice, leaving the first coat to dry overnight before you apply the second, as you did with the paint.

You can make pretty and useful gifts by painting the tin boxes you get when you buy a quantity of band-aids, or any other small tin containers that may come your way. These can be used to keep pins or paper clips in, or rubber bands.

Two coats of black paint, the glossy kind, will cover all trace of lettering or design on the lids.

When the paint is thoroughly dry, decorate the lids with a design of your own. A border of blue forget-me-nots and green leaves might look nice. Or a green and red holly design if you are making a Christmas gift. Or you can cover the whole surface with a cut-out from a magazine that you like, and then varnish it.

STENCILING FABRICS

You can also decorate fabrics with paint—face towels, curtains, place-mats. You do this by stenciling patterns on your material.

YOU WILL NEED:

A sharp knife (or an X-Acto with a No. 16 blade and No. 1 handle)

Stencil paper

Stencil brush

Paint, in jars, all the colors you want to use

Paint extender

A white blotter

Masking tape

Cotton face towels or other material to be stenciled

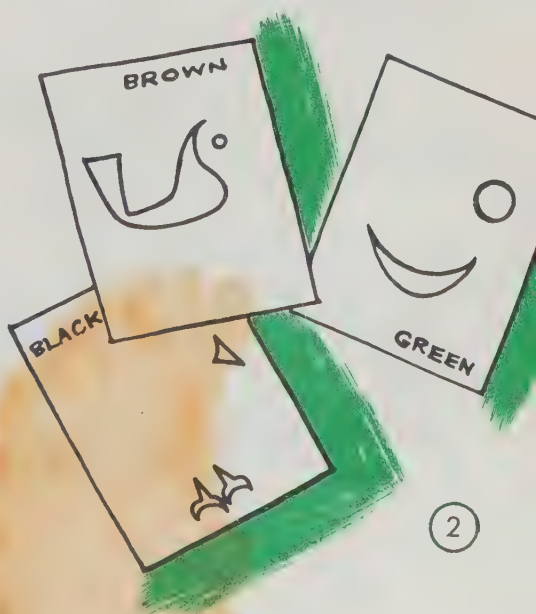
Trace any of the pictures on this page. (See page 400 for Tracing Directions.) Or use any other designs you like.



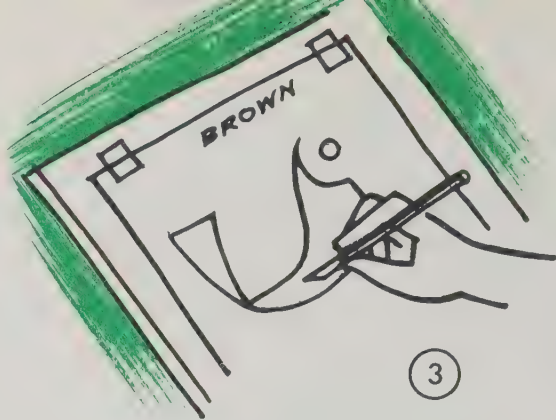
Tape your tracing to a piece of stencil paper, and trace onto the stencil paper all the parts that are the same color (Picture 1). Take the tracing off the stencil paper.

Tape the tracing onto a second piece of stencil paper. Again, trace all the parts that are the same (second) color.

Do this for each color in your picture. If there are three colors you will have three stencils. Label each stencil “Red”, “Green”, “Blue”, or whatever color has been traced on that stencil (Picture 2).



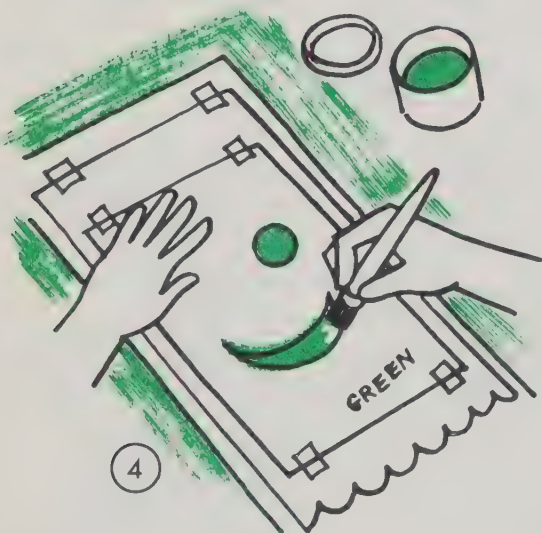
CUTTING THE STENCILS—Now comes the actual cutting of the stencils. Do this with your knife or X-acto. If you are too young to do the cutting yourself, ask some older person to do it for you. The stencils should be placed on a flat hard surface like a sheet of glass or a piece of stiff cardboard, and taped down. It will



PRINTING THE STENCILS—You need very little paint to color your design. Use some extendor with the paint and you will find it easier to mix. Extendor also makes the color fast. That means that it can be safely washed. You can get it at any art or hobby store.

Now tape down on a white blotter the towel or other article you want to print your stencils on. Then tape down on the part of the towel you want to decorate the first of your stencils. If the label on that stencil says “red” then color the cut-out spaces red. Work the color well into the fabric. You may have to give it several coats (*Picture 4*).

When you have stenciled one color, take the stencil off and tape another



help you with the cutting if you turn the whole glass or cardboard around gradually as you work (*Picture 3*).

Be sure you cut a stencil for each color in the picture.



stencil onto your fabric, placing it so that the second color comes where it is in the picture.

Do the same with the third stencil, using your third color.

To clean your stencils, blot them on your blotter and wipe the edges with a clean rag. You can use them again if you put them away in a folder with thin sheets of paper between them.

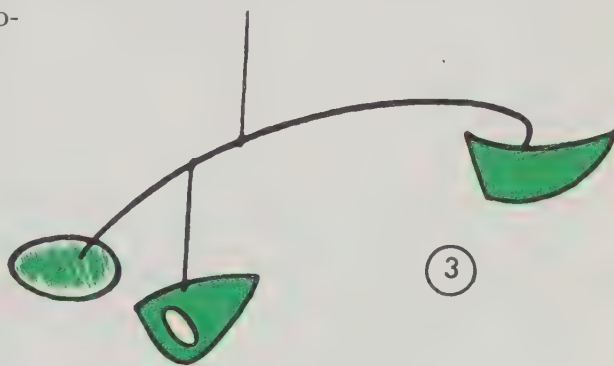
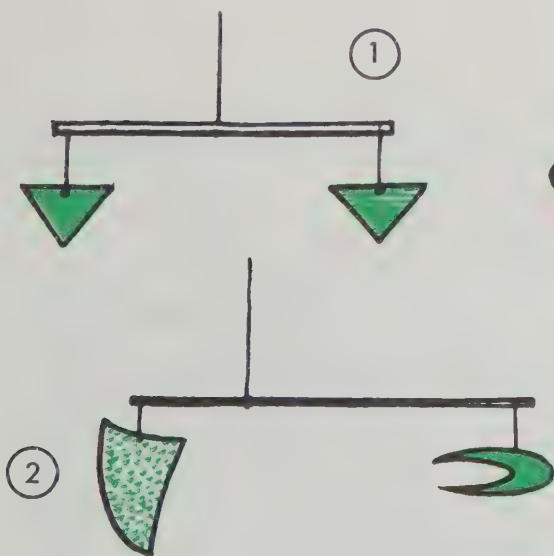
Mobiles

Mobiles have been called moving sculpture. You make the parts of your moving sculpture separately. Then you hang the parts in place so that they balance each other, and so that the parts themselves look well arranged. The mobile will then turn easily and naturally. You will enjoy watching its movement and its changes of movement.

Here is a perfectly balanced mobile, the simplest kind anyone can make (*Picture 1*). You can make more elabo-

rate and more interesting mobiles if you use ornaments of different shapes and weights (*Picture 2*). Notice that to make this mobile balance, the thread by which it hangs had to be moved over to the heavier side.

You can make a balanced mobile hung with more ornaments (*Picture 3*). Here the cross-piece is curved instead of straight, and one end is higher than the other.



A SIMPLE MOBILE

A fairly large tin can, open top and bottom, is hung from a black nylon thread. A curved crosspiece hangs from the can by another black nylon thread. Ornaments are tied on to the ends of this curved cross-piece (*Picture 4*).

The ornaments can be the tops and bottoms of tin cans of different sizes. Use a can-opener that cuts without leaving jagged edges. You can bend these pieces of tin into many different and interesting shapes.

Or, instead of a large tin can at the top, you can have a big cardboard fish or bird, painted some bright color, or gold or silver, or maybe black. The ornaments will then have to be colored too.

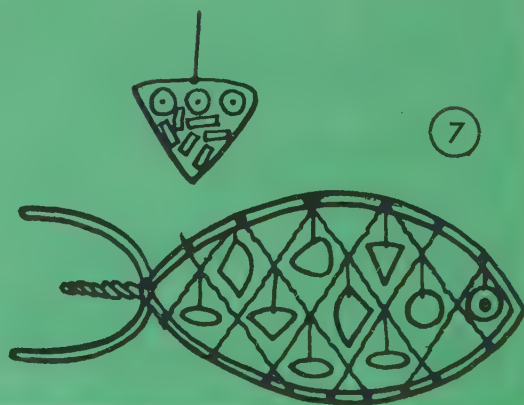
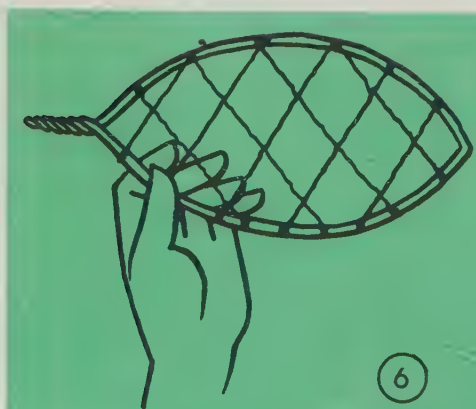
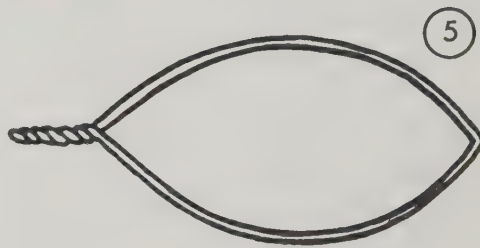
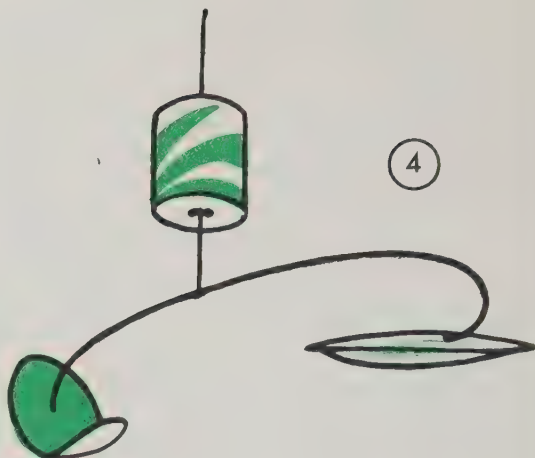
A FISH MOBILE

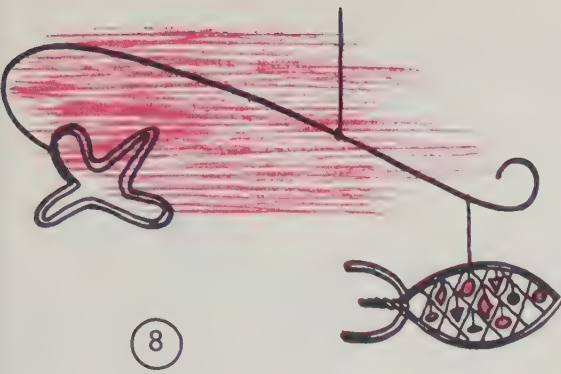
You can make a pretty fish mobile with chicken wire and cut-out shapes of tin or of cardboard.

First make an outline, in fine wire, of a fish (*Picture 5*). Next, take a piece of chicken wire and cut it the same shape as the fish, leaving the cut ends loose. Fasten these loose ends to the wire outline of the fish (*Picture 6*).

Paint the cut-out ornaments in different bright colors on both sides, and shellac them.

Bore a small hole in each ornament and hang one by a thread in each space of chicken wire. Remember to hang one in the fish's head for an eye (*Picture 7*).





If you want to give the ornaments more of a sparkle add sequins or tiny beads to both sides. (*See page 87 for how to decorate with beads or sequins.*)

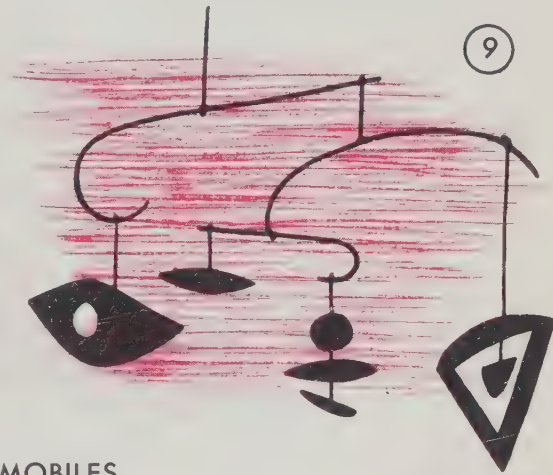
Fasten a semi-circle of wire to the back end of the fish for a tail.

Hang the fish mobile from one end of a curved cross-piece and a small wire ornament at the other, any shape you like (*Picture 8*).

COLORS FOR MOBILES

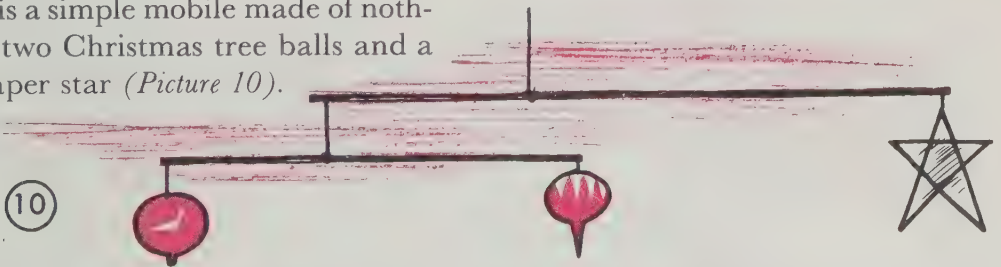
Strong colors are best for mobiles. Black is very good. Primary colors—red, blue and yellow—are good, and in some cases so is white. Pale colors do not look well.

Shapes like the ones shown in the picture of this spread-out mobile can be cut out of cardboard or tin, and painted black on both sides (*Picture 9*). Try drawing odd shapes with three, four or more sides. You will find that they look better if the sides are not all of the same length.



CHRISTMAS MOBILES

Here is a simple mobile made of nothing but two Christmas tree balls and a silver paper star (*Picture 10*).



Or you can make this one with a cut-out cardboard reindeer at the top (*Picture 11*).

The ornaments should be brightly-colored and of different sizes and colors,

with perhaps some silver or gold bells.

Ordinary Christmas-tree decorations are easily broken; so if you want a sturdy mobile it might be better to use plastic ones.



A CIRCUS MOBILE

Have a circus tent roof for your top cross-piece (*Picture 12*).

On the short-thread side hang a cut-out clown. Paint a few hollow rubber balls in bright colors and tie them on the same side.



On the long-thread side hang another, smaller tent-roof cross-piece; and from that you can hang cut-outs of an elephant, a lion, a circus-horse or any other circus animal you like (*Picture 13*).

· MAKING THE MOBILE

You can use black wire coat-hangers for cross-pieces. Straighten them out and cut to the size you want. Bend them slightly when you want curved cross-pieces.

Threads should be as slender and as invisible as possible, but strong enough to hold. Black nylon thread is best in most cases.

It is a good idea to draw a design on paper of what you want the finished mobile to look like.

As you build the mobile, hang it up in a doorway from time to time to see if the balance is about right. Correct the balance by moving the top thread as much to the heavier side as you need to.

HANGING THE MOBILE

A good place for a mobile is some corner of a room where it can be seen, but not be in the way. Ask some grown person to do it for you.

It can hang from a screw eye in the ceiling. Or it can be fastened to the end of a curtain rod that can be attached to a high bookshelf and project out into the room. Or, if you have a big wide window, the mobile can be attached to a long dowel at the top of the window-frame. Another way is to stretch a wire across the room very close to the ceiling and hang the mobile on that. The wire can be fastened to screw eyes in the wall.

Remember the mobile does not need to hang in a breeze. There are light changing currents of air in every room whether we feel them or not. And if the

mobile is perfectly balanced, it will move with every little change in these currents. That slight and changing movement is what makes it so pleasant to look at a mobile.

A Whirly for Your Lamp

You can make a kind of lamp mobile called a Whirly that will turn around and around whenever the electric light is on.

YOU WILL NEED:

An electric lamp that has the lampshade fastened by a finial (metal screw)

A thin wire coat-hanger

A piece of heavy colored paper
5½" square

A strong needle

A small snap fastener

Black thread

Gummed seals or sequins for decoration, and glue to fasten the sequins in place.

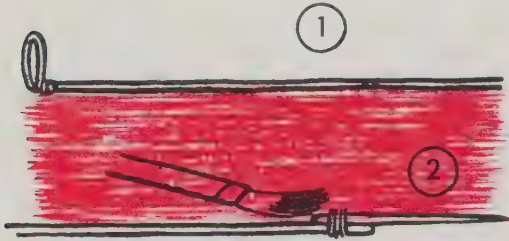
Straighten out the coat-hanger and make a loop at one end, at right angles to the straightened wire (*Picture 1*).

Fasten the needle (point up) to the top straight end of the coat-hanger by winding thread around both. Coat the thread with glue (*Picture 2*).

Unscrew and take off the finial that holds the lampshade firmly on the lamp. Hold the coat-hanger upright over the lamp with the loop exactly on the center ring of the lampshade framework. Screw the metal top back on so that it holds the loop firm (*Picture 3*).

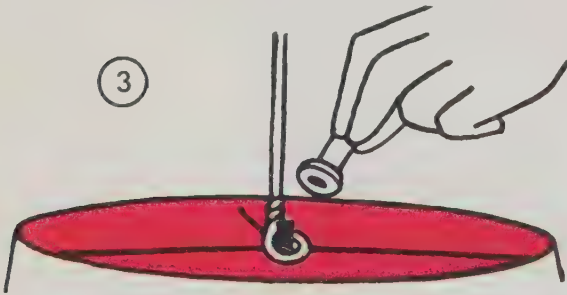
TO MAKE THE WHIRLY

In the center of your square of colored paper draw a circle of 1" diameter. Use compasses and set them for a radius of $\frac{1}{2}$ ". Keep the compasses' point on the



same center and draw another circle with a radius of $2\frac{1}{2}$ " outside the first circle (*Picture 4*).

Divide the circumference of the big circle into five equal parts, and mark each division in pencil. The distance between the marks, measured by ruler, will be about 3 inches.



Place your ruler so that it touches one of these marks on the outer circumference and also touches the center of the circle. Draw this line, but stop when you get to the circumference of the small circle. Repeat this from the other marks on the big circle's circumference (*Picture 5*).

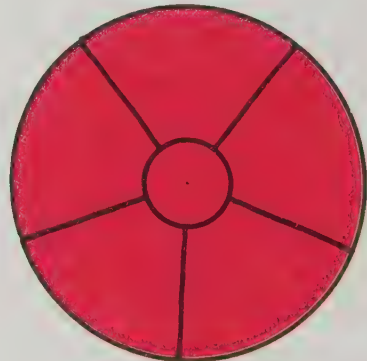


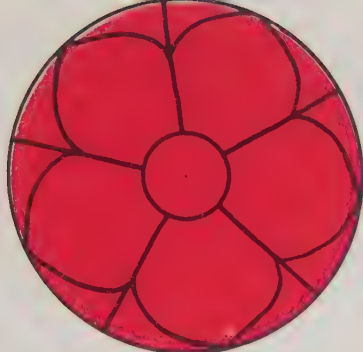
Inside each of the five divisions draw the curves of a flower petal (*Picture 6*).

Cut along the curved lines, but only to the point where they join each other.

Bend back the curved edges you have cut so that each of the five parts makes a flower petal. You can bend them either up or down, as you prefer. Do not make a hard crease in the paper, just bend it and bend it again till it stays curved back.

Now the snap-fastener has to be snapped into place right in the center of the paper flower (*Picture 7*). The snap-fastener has two parts. One of these parts goes on top of the flower and the other underneath. Then snap together. This flower is the whirly.



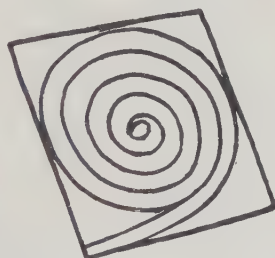
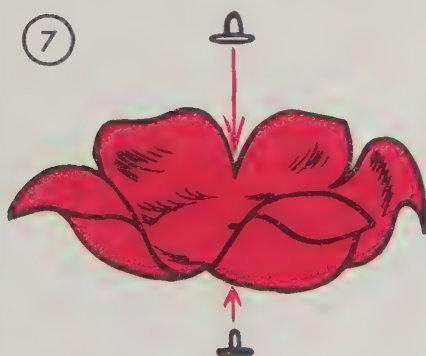


6

Balance the whirly on the point of the needle that you have tied to the coat-hanger. The needle fits into the hollow in the middle of the bottom snapper.

Switch on the electric light. Wait until the air around the lamp has warmed up, then the whirly will start going around and around. It will not stop until the light is switched off.

7



8

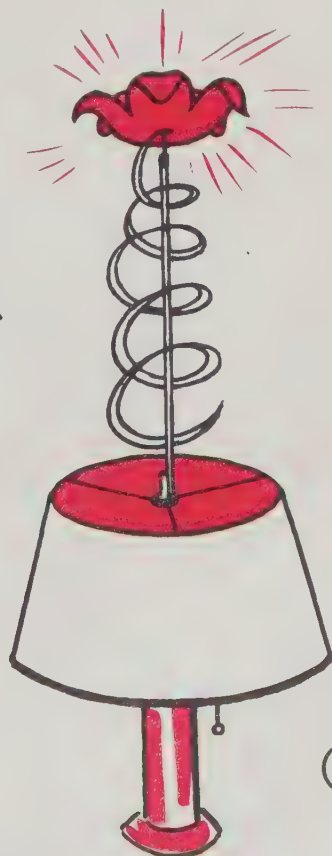
TO DECORATE THE WHIRLY

Before you set the whirly in its place on the needle point, decorate it with gold and silver seals. Or spatter it here and there with glue and put a sequin on each speck of glue. (See directions on page 87.). The decorations should be spaced evenly on the whirly so that the balance is not upset.

SPIRAL DECORATION

Take a 5" square of aluminum foil. Starting at the bottom left hand corner, draw a spiral (Picture 8). Use a manicure stick, as a pencil-line will not show on aluminum foil. Keep the lines about half an inch apart, getting narrower towards the center. Cut along the lines you have drawn.

Snap the center end of this spiral into the snap-fastener. You have to unsnap it first, then snap it again, catching the end of the spiral firmly. When the light is on, the spiral and the whirly will both go around and around together (Picture 9).



9



Puppets and a Puppet Theatre



Hand Puppets

You can have a theater all your own. You can make the stage, the actors in the play, the costumes. You can write the play yourself, and you can do all the acting, the stage-managing, the scene-shifting, raising and lowering the curtain — everything — yourself. You'll have a wonderful time with your puppets and your puppet-theater.

Start with the easiest kind of puppet, one that fits over your hand, and if you like your hand-puppet actor, go on and make puppets of people and animals, complete with legs and arms, and make a real theater for them to act in.

FINGER JIGGER—This is one of the simplest of puppets. You can make it walk or dance or jump just with two fingers.

Here is a picture of Punch and Judy puppets you can trace (*Picture 1*). (*For Tracing Directions see page 400.*)

Paste each drawing on cardboard, color with paint or crayon, and cut out holes to match the holes shown in the picture. These are for your pointing finger and middle finger to go through to make the puppets move about as you want them to (*Picture 2*). Or you can draw your own puppet. It can be a girl or boy or some kind of animal.

PUPPET WITH POTATO HEAD—This puppet has a hollowed-out head so that your finger, the pointing one, can go up in-

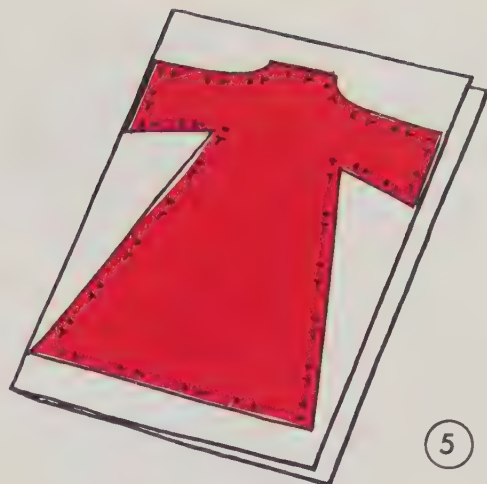


side and make the head wag and bow and turn around, or do whatever else you want to make it do.

Use a small kitchen knife to scoop out the hole (*Picture 3*).

You can paint a face on the potato. If you do, make the eyes, nose, and mouth extra large, so that they can be seen by people who sit far back when you put on a performance. If you don't want to use paint, make the eyes and nose with thumbtacks or with buttons fastened on with pins. You can have a cork for the nose if you like. Cement it on with airplane cement. The ears can be cut out of construction paper, or you can scoop out little grooves where they are to be and stick in bits of sea-shell or the halves of almond shells, and paint them (*Picture 4*).

Use wool for the puppet's hair. Glue it onto the head in strips, starting from



a center or side parting. Glue bangs on the front. Trim the ends after the glue has dried.

Now you must have a costume for the puppet. The pattern on this page will help you make it (*Picture 5*).

Notice that the cloth is folded over double and the pattern pinned to it. Cut it out this way so that you will have a front and back exactly the same.

Sew it all around except the bottom, using a running stitch, the easiest of the stitches. (*See page 316 for Sewing.*)

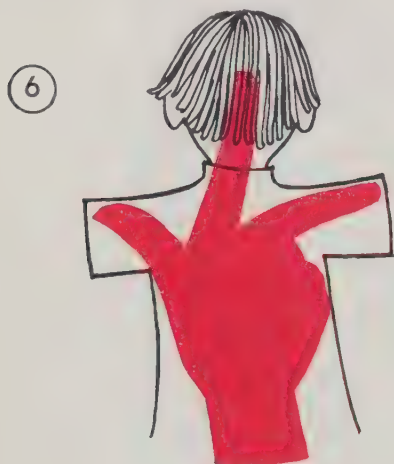
(If you do not know how to sew at all, perhaps your mother will do this for you. Or, if you do not want to bother to make a dress, you can use a silk scarf large enough to wrap around your hand and still leave your fingers free to move about.)

Try on the finished costume. Your thumb goes into one arm, your forefinger into the 'neck', and your middle finger into the other arm.

Now put the head on the neck—your

forefinger—and you have a puppet actor ready to take the stage (*Picture 6*).

You can make a puppet head out of an apple if you like, instead of a potato, or out of a carrot, a yam, or a rubber ball.



How to Make Papier-Mâché for Puppets

The word papier-mâché is French, and means “chewed paper”. This is how you make papier-mâché:

Tear newspaper or paper towels into strips about an inch wide and a little less than three inches long.



Put them into a bowl and pour hot water over them—just enough to cover them.

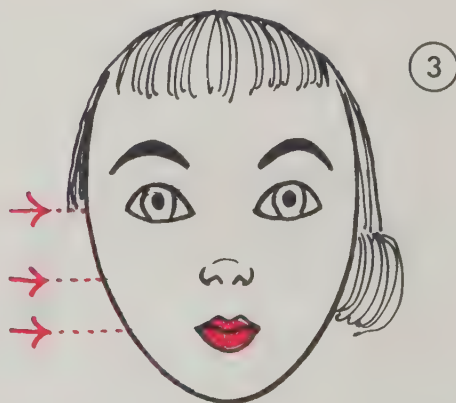
Soak overnight, then squeeze between your fingers until almost dry (*Picture 1*).

Put about half-a-cupful of flour into a bowl. Add water a little at a time until you have a smooth paste. Pour this over the squeezed paper. Mix well. What you have is papier-mâché (*Picture 2*).

PAPIER-MACHE HEADS FOR PUPPETS

One of the most interesting uses for papier-mâché is to make heads for puppets.

First you must make a model of a head with oil clay. You can buy a pound of oil clay for a few cents at a paint store.



Look at the drawings on this page (*Picture 3*). Notice that the outline shape of a person's head is something like an egg. The eyes come almost half-way between the top of the head and the chin. The nose is drawn about a third of the way down from eyes to chin, the

mouth another third of the way down.

Now model an egg-shaped head. (Remember a small boy or girl can handle only enough clay to make a small head.) (See page 237 for instructions in *Modeling in Clay*.)

Mark the eyes with your finger or an orange-stick. Add a thin roll of clay over each eye for eyebrows, and smooth the places where they join onto the head.

Stick a piece of clay onto the bottom of the head and mold it into a neck (Picture 4).

Now tear (do not cut) newspaper into strips. Mix half-a-cup of flour and enough water to make a smooth paste.

Dip one of two of the strips into the paste, drain them a little, and lay them across the clay head. Go on doing this all over the head and face, criss-cross, until the whole head is covered, but not the neck. Cover the whole head about six times, and each time you put on a strip, smooth it down with your fingers. Be careful to keep the shape of the face and features just as they are in the clay (Picture 5).

Go over the whole head with your fingers, dipped in the flour-water paste, to make sure it is as smooth as you can make it.

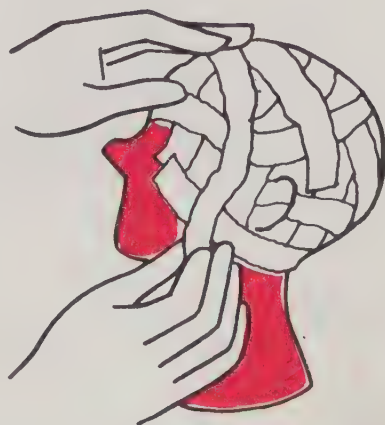
Put the head on a sheet of wax paper to dry. It will take about two days.

CUTTING THE PAPIER-MACHE SHELL—

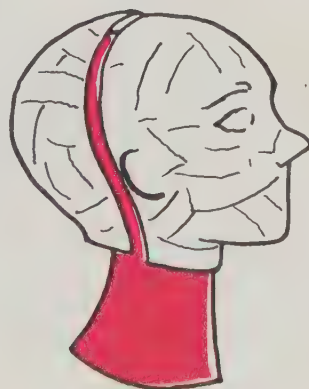
Now you want to separate the papier-mâché shell from the clay. To do this, start behind one ear and cut across the top of the head to behind the other ear,



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6

and down to the bottom of the neck. Finish cutting the neck on the other side. The papier-mâché shell should come apart in two equal sections (*Picture 6*).

To paste the two sections together use strips of paper dipped in the paste again. Paste them in a criss-cross pattern to make the joint strong (*Picture 7*).

When it is dry—in a few hours this time—it will be ready to paint.

PAINTING THE PUPPET—Paint all the skin except the part that is to be covered by hair.

For so-called white skin, mix pink and white and a little yellow until it looks right.

A Negro boy or girl can be dark brown or light brown; so mix brown paint with yellow and a little red until you get the color you want.



For a Chinese boy or girl, mix yellow and white and a little red.

For an Indian, mix yellow with a little red and a touch of blue (*Picture 8*).

You can either stick bright-colored beads into the grooves left for the eyes, or you can paint the eyes in.

Little wisps of wool can be pasted on above the eyes for eyebrows instead of clay, if you like. Eyelashes had better be painted on.

Paint the lips red, separating them with a pencil line.

HAIR FOR THE PUPPET—Knitting-wool makes quite satisfactory hair. Put it on the way you put the potato puppet's hair on. (*See page 255.*) If you leave it rather long, you can arrange it in different styles — braids, curls, rolls, or shoulder-length cut. If you have no wool, any heavy material that can be frayed will do for hair, even an old clothes-line.



FINISHING OFF THE PUPPET—Mustaches and beards can be just wool or cotton or fringe, pasted on (*Picture 9*).

Make spectacles with pipe-cleaners, and use cellophane for lenses (*Picture 10*).

If you want to make big wolf-teeth, cut a strip of cardboard with jagged edges. Paste the strip inside the mouth (*Picture 11*).

CLOTHES FOR THE PUPPET—A full-length puppet must, of course, have legs and feet, and a skirt or trousers.

Make legs out of strips of wool or rope. The feet can be the spade ends of wooden ice-cream spoons, painted, or if you like, covered with pieces of pasted-on cloth, for shoes (*Picture 12*).

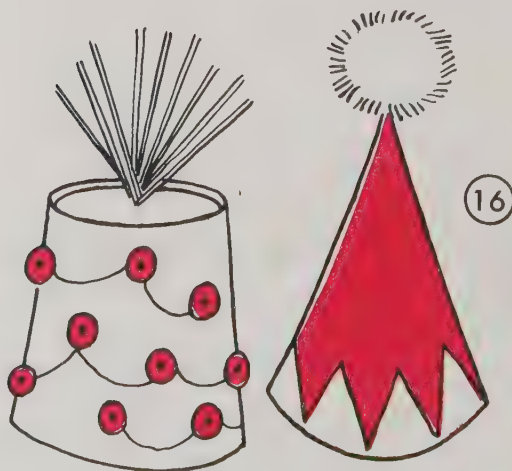
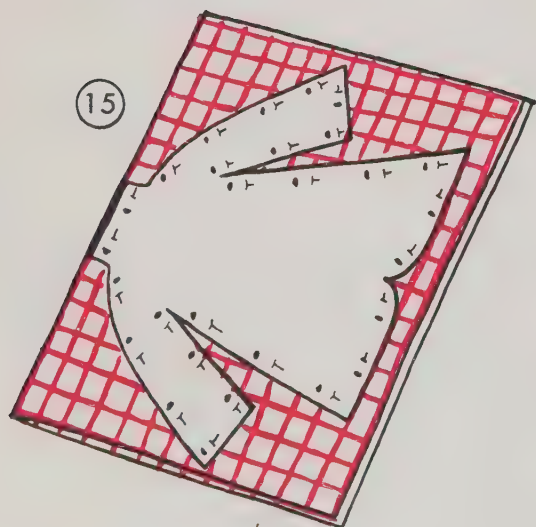
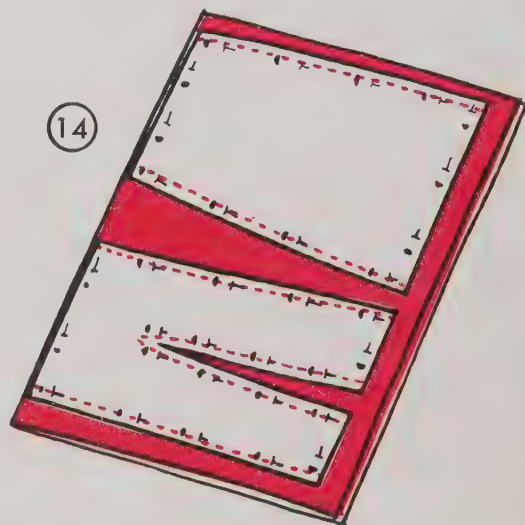
Cut hands out of pieces of felt (*Picture 13*). You can sew or staple them to the sleeves of the costume.

A skirt and a pair of trousers can be made out of odds and ends your Mother will let you have. Cut a paper pattern the same shape as the one in the picture, but to fit your puppet. Lay the pattern on your material and cut out. Sew along the dotted lines (*Picture 14*).

You can also make a jacket or blouse, using the pattern in the picture (*Picture 15*). At the back of the blouse or jacket

make a slit for your hand to go through. Tuck the ends of the jacket or blouse inside the trousers or skirt. (When you have the puppet on the stage, remember not to move your arm, only your fingers. If your arm moves, the audience will see it.)

For hats, use milk-bottle tops or paper cups turned upside-down and painted and decorated. Sew a pompom on top of a cone-shaped paper hat for a clown (Picture 16). (See page 341 for how to make a pompom.)



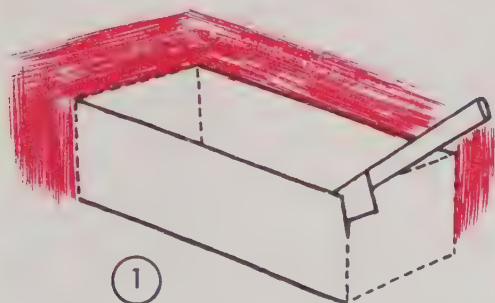
OTHER THINGS YOU CAN MAKE WITH PAPIER-MACHE

A TUNNEL—One thing you can make is a railroad tunnel for your trains to go through. Take a shoe-box and cut out both ends (*Picture 1*). Cover the rest of the box all over with papier-mâché mixture. (See page 256.) Round off the surface and the corners the way a tunnel would be (*Picture 2*).

Let it dry overnight.

Then paint it green, or green and gray, or any color you think would look nice with your trains (*Picture 3*).

You can also cover old baskets with papier-mâché and paint them, or the roof of a doll's house.



A BOWL—You can make a beautiful papier-mâché bowl this way:

First, coat the outside of a kitchen bowl with vaseline and turn it upside down. (*Picture 4*).

Then tear (do not cut) strips of newspaper as you did before, but this time do not soak the paper in water. Make a flour paste of half-a-cup of flour mixed smoothly with water. Dip the pieces of



paper into the paste and cover the upside-down bowl with six or seven layers of these strips, in a criss-cross pattern (*Picture 5*).

Let it dry, then sandpaper until smooth.

Lift the papier-mâché cast off the bowl. It will come off quite easily because of the vaseline (*Picture 6*). You

can paint it with showcard color from the paint store.

If you give your new bowl a coat of shellac inside and out, you will have a fine gift for someone (*Picture 7*). A tray can be covered in the same way to make a papier-mâché cast of the tray (*Picture 8*).



A Puppet Theater

You can sit on a low chair behind a table draped with a long cloth to show your puppet. The cloth will hide you from the audience. Your puppet or puppets can dance and act on the table.

Or you can thumbtack a sheet across an open doorway, and stand behind it and show your puppets above the sheet to the audience on the other side.

Or, in warm weather you can take the puppet outside, sit down out of sight of the audience, and show the puppet on the window-sill of a half-closed window while your friends look on from inside the room (*Picture 1*).

But if you want to get the most enjoyment out of your puppets, you will want a real theater.

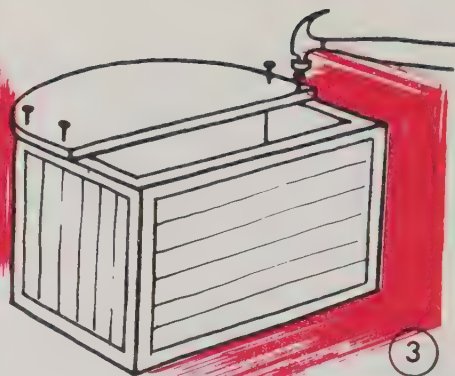
To build a good and long-lasting theater, make it of wood. Ask your grocer for a wooden crate. Take out one side because it must be open to the audience, and take out the bottom of the crate because you will be sitting or standing underneath it, pushing the puppets up where the audience can see them perform (*Picture 2*).

One of the sides you have taken out can be made into an "apron" to enlarge the stage. The picture shows how you





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can nail it to the upright walls of the crate. Your puppets can act and dance on this apron. It is called a proscenium in the language of the theater (*Picture 3*).

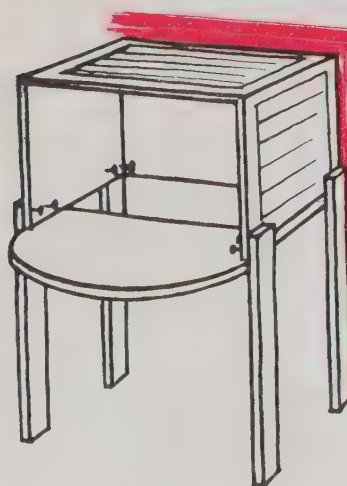
Mount the crate on four strong legs. You will probably need help in making the legs and nailing them on because they will have to be 4 or 5 feet long and 2 inches by $\frac{3}{4}$ of an inch thick (*Picture 4*).

Now finish off your stage by adding an arch to the top (*Picture 5*). Fasten it on with thumbtacks. This arch is called the proscenium arch.

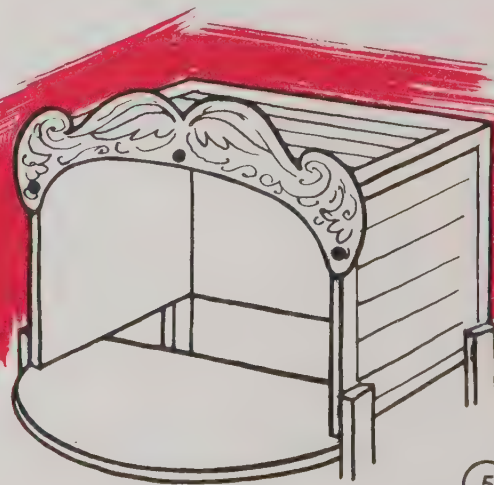
The building of your theater is now completed. But if you want it to look more attractive, you can add a few things. First, hang a cloth from the bottom of the stage to the floor, so that the audience will not be able to see either you or the legs of your theater.

Next, cover the outside of the theater with colored construction paper.

Then give the stage, including the apron, a coat of enamel paint. You can get this from the paint store (*Picture 6*).



4



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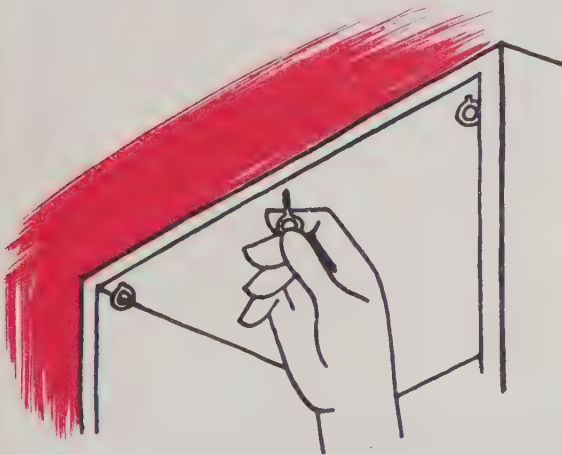


THE CURTAIN

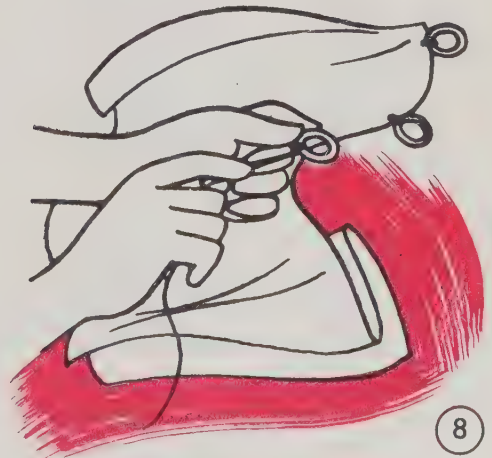
Now comes the most exciting thing of all, the curtain! And it will be more like a real theater if it is a curtain that will open and close at the lightest pull of a cord.

The material for the curtain need not cost you anything. It can be made of

different colored lengths of material you happen to have at home. Sew the pieces together. Be careful that the right side of the curtain and the left side look exactly alike. And hem the edges carefully so that they are strong and will last a long time.



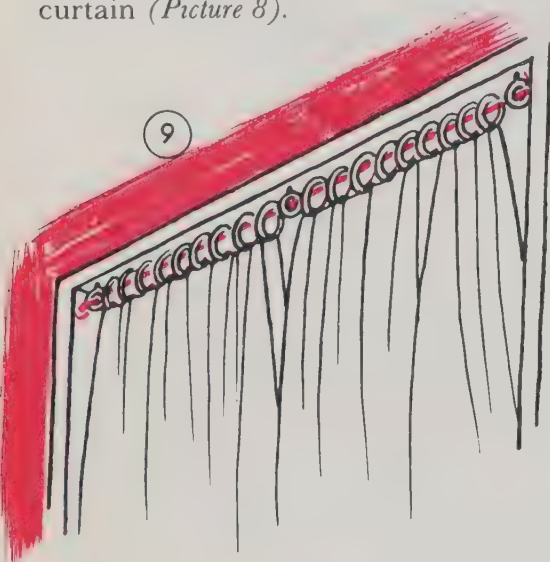
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8

HANGING THE CURTAIN—First put three screw-eyes into the woodwork, one at each top corner of the stage and the third in the center (*Picture 7*). (Screw-eyes can be bought at any hardware store.)

Next, sew nine little rings (also at hardware stores) along the top of each curtain (*Picture 8*).



Now you want a piece of picture wire, longer than the width of the stage. Pass the wire through the left-hand screw-eye and twist the end round the screw-eye several times. Then pass the wire through the nine rings on the left curtain. Push this curtain all the way back to the left screw-eye. Pass the wire through the center screw-eye, then through the nine rings on the right curtain. Last of all, pull the wire tight, pass it through the right-hand screw-eye, and twist it firmly several times around that screw-eye (*Picture 9*).

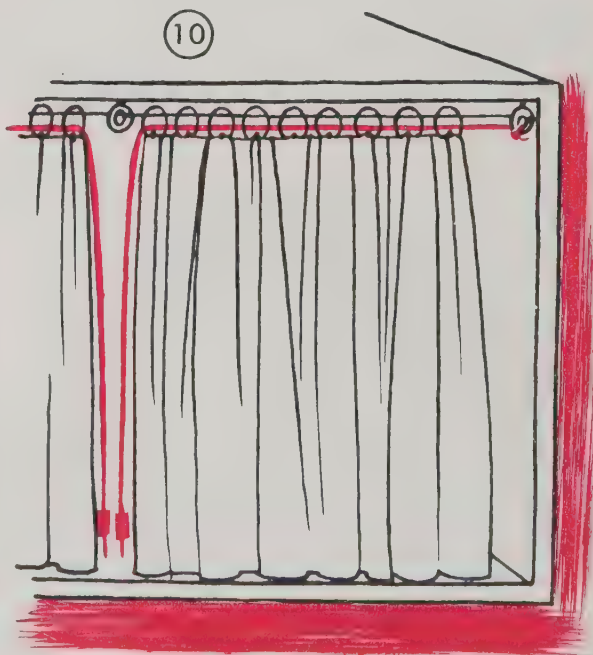
THE CURTAIN RISES—To draw up the curtain, you need a yard of cord for each side.

The picture will show you how the cord should be attached.

For the left-hand curtain, pass the cord through the left-hand screw-eye, and have a good knot at the end to hold it. The cord then goes through all the nine left-hand curtain-rings, and hangs down. Tie a red bead or button onto the end so that you will know it is the cord that raises the curtain.

For the right-hand curtain, do exactly the same from the right side.

You now have two cord-ends hanging down the middle of the stage, both with red beads or buttons at their ends. A gentle pull on these cords will raise the curtain (*Picture 10*).



THE CURTAIN FALLS—To drop the curtain you also need a yard of cord for each side.

Fasten one cord to the left-hand screw-eye with a knot to hold it. Carry the cord all the way to the middle of the wire, and pass it through the first *right-hand* ring. Let the end hang down and tie a green bead or button to it.

Fasten the other cord to the right-hand screw-eye with a knot to hold it. Carry the cord all the way to the middle of the wire and pass it through the first *left-hand* ring. Let the end hang down and tie a green bead or button to it.

Try raising and dropping the curtain. Show your Mother and Father how well you can do it by pulling first the red button and then the green button.

STAGE FURNITURE (PROPS)

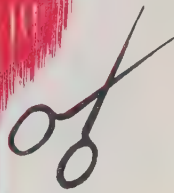
Paint a backdrop of sky, hills and trees, or a street scene, if your puppets are acting in an outdoor play. (*See page 231 for directions on painting.*) If they are acting in an indoor play, paint doors and windows on the backdrop and furnish the stage to suit the scene. (*See page 61 for how to make background furniture.*)



Making Marionettes

Another kind of puppet is a good stage actor because he can walk around by himself—almost. All he needs to help him are two strings looped around your fingers.

String puppets are called “marionettes.” The easiest kind of marionette to make is of stiff cardboard, something like a push puppet figure. When you make a cardboard marionette, however, draw one of his arms in a piece separate from his body (*Picture 1*). Color the parts, paste them on cardboard, cut them out, and fasten them together with a metal clasp. Be sure to make the fastening loose enough so that the actor can move



Cut out.



For fastening



Paste cardboard on back of drawing.

1



Other weights
you can use.



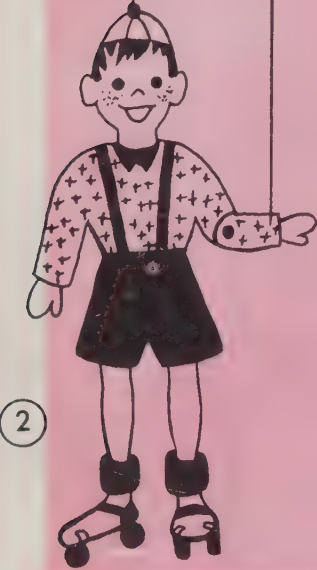
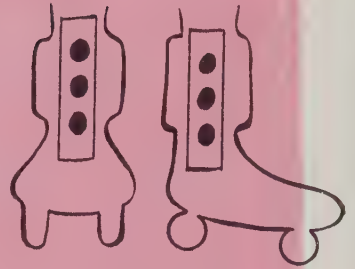
Nut



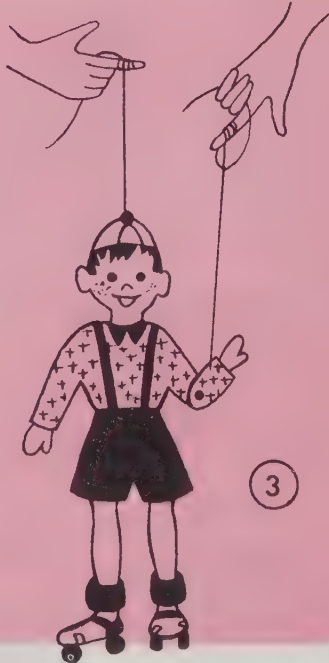
Small
washer

4

Back of legs



2



3



his arm freely. Who wants a stiff stage-struck actor!

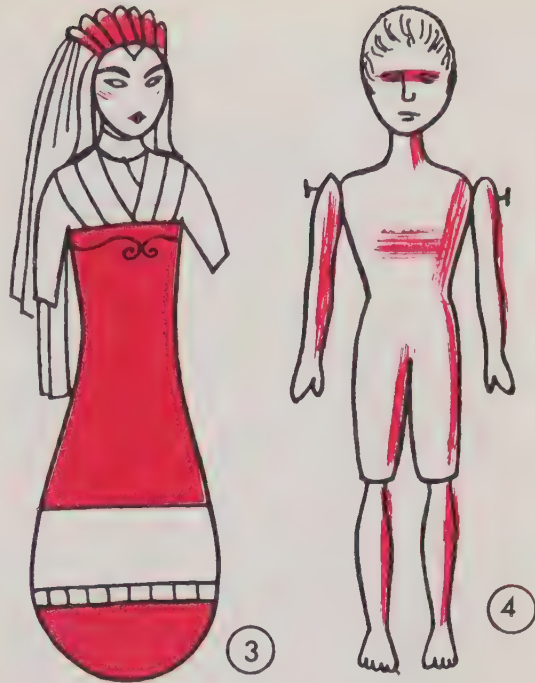
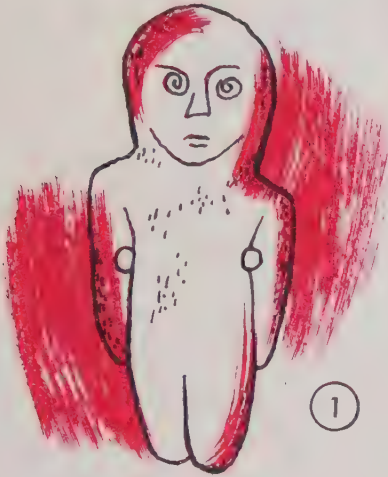
Now make a small hole near the top of your marionette's head and a small hole near his moving hand. Tie heavy linen thread through these holes (*Picture 2*). Lower your marionette to the floor until he is just standing on his feet. Wind one thread several times around each forefinger and cut the thread. Now your marionette can walk on the floor (*Picture 3*).

If he is acting on a table, you can shorten the thread without cutting it, by winding it around each forefinger at a point lower down on the thread.

It's difficult for this marionette to keep his feet on the floor, because he's so light. So, with scotch tape, fasten some small lead weights at the back of each leg, near the foot. Or use any other small weight (*Picture 4*).

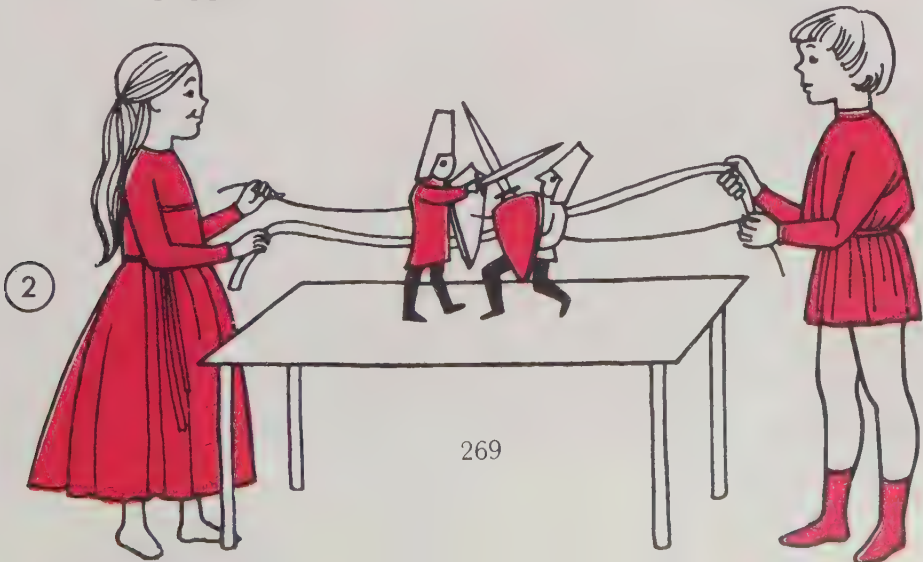
Puppets Through the Ages

STONE AGE—Stone and amber figures with holes under their arms date back to prehistoric times. They may be puppets of those long-ago days (*Picture 1*).



MEDIAEVAL—In the days of knights in armor, puppets were very popular. They acted stories of battles, miracles and magic, furnishing entertainment for both rich and poor people. Often real people acted with these puppets (*Picture 2*).

EGYPTIAN—From the days of the pyramids, the Egyptians had puppets, of terra cotta, wood and other materials. The wooden ones were jointed and not only moved their arms and legs, but noses and sometimes mouths (*Picture 3*).



GRECIAN—The ancient Greeks had puppets of marble, terra cotta, amber and clay. Greek writers have told how cleverly they acted (*Picture 4*).

IN THE CHURCH—In the days when there were few books, and not many people could read, plays from the Bible were given in churches, so that people would know the Holy Book. Very often, marionettes were used with people, in plays (*Picture 5*).

MARIONETTE ACTING

Now for the acting! The forefinger of one hand is the head control, and the forefinger of the other hand is the arm control (*Picture 1*). Move the head control back and forth—your puppet bobs his body from side to side. Lift the arm control—your puppet waves his arm in the air. Move the puppet up and down with a slight motion of your wrists. With the movement of the two strings, the body and arm will both move. The little actor will seem almost alive.



If you say “good morning” and move or shake the puppet’s head, he seems like a real actor. Make him walk by just touching his feet to the floor and swaying him a little from side to side as he goes forward. Move your wrists slowly and gently and the strings will not become tangled. Slowly and gently — those are the words to remember when learning to work your puppet actors.

Practising is important in working puppets. As you practise, you’ll discover many things you can do with them.

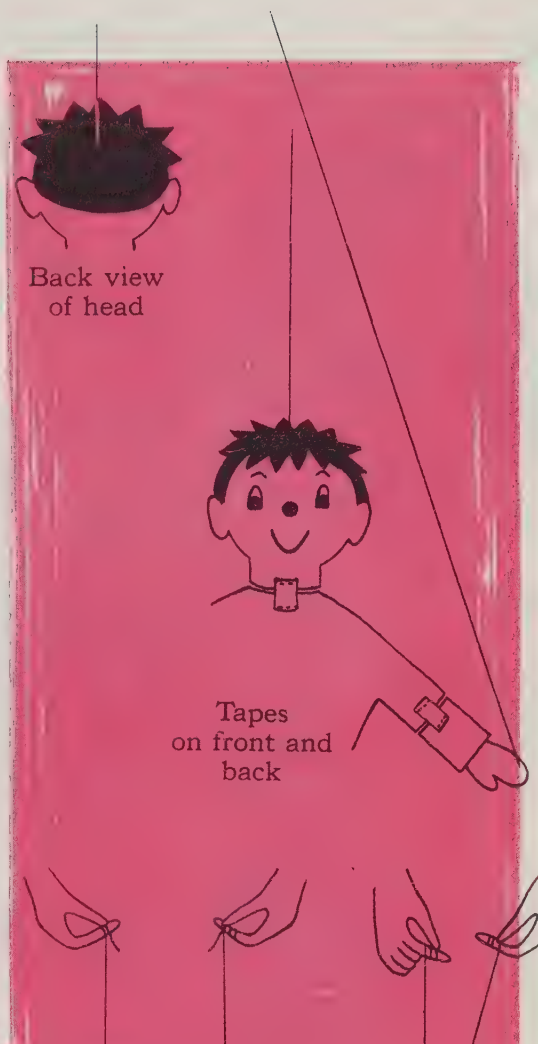


MARIONETTES FROM DOLLS

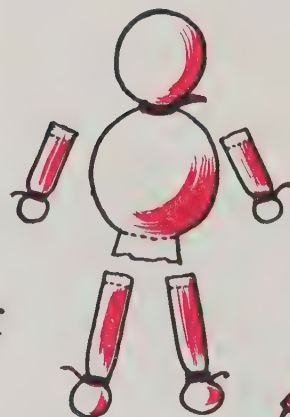
Old dolls can be used for marionettes, though they are somewhat stiff. Rag dolls are the best and most limber.

If a rag doll does not already have a head that flops up and down and from side to side, that's easy to fix. Cut the head at the neck. Sew together the outside covering of each part so that the stuffing does not drip out. Then join the head and body together again with tapes about an inch long. In the same way, cut one arm apart at the elbow and join it again with tapes.

Sew a string to the back of the head, and another one to the taped hand, and the rag doll becomes an actor. This is a limp marionette so that it can do many more things than a stiff paper one can. Keep its head string tight and it can walk along with its nose in the air. But twitch the head string quickly forward and the marionette bows. Twitch the string backward and floorward and the marionette sits down—suddenly (*Picture 2*).



MARIONETTES YOU CAN MAKE



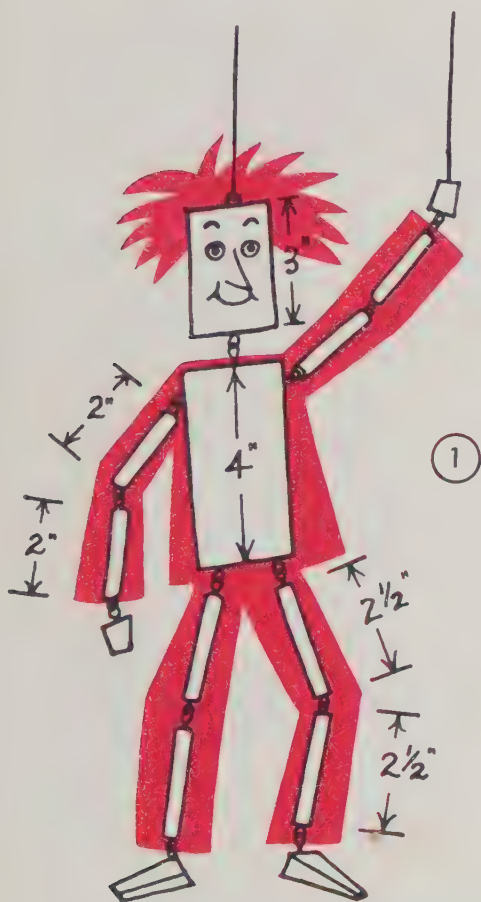
CLOTHESLINE MARIONETTE—Double a piece of clothesline through small holes in the top and bottom of a little box. Push another piece of rope through holes on opposite sides. Model a clay head (*See page 237*). Fray rope for hands and feet (*Picture 1*).

STUFFED MARIONETTE—Stuff the foot of a sock. Tie a string around the upper third for a head. Cut strips of sock for arms and legs. Stuff, and attach to the body with tapes (*Picture 2*).

When puppet wears a hat, head string is still attached to head. It goes through the hat! (*Picture 3*).

WOODEN MARIONETTE—This marionette is made of wooden blocks and dowels, held together with screw eyes. Pry open the screw eyes to interlock, then close again (*Picture 1*).

Draw a face on the marionette and dress it.



HAND PUPPET STRUNG AS MARIONETTE—(*Picture 3*). (See page 254 for how to make a hand puppet.)



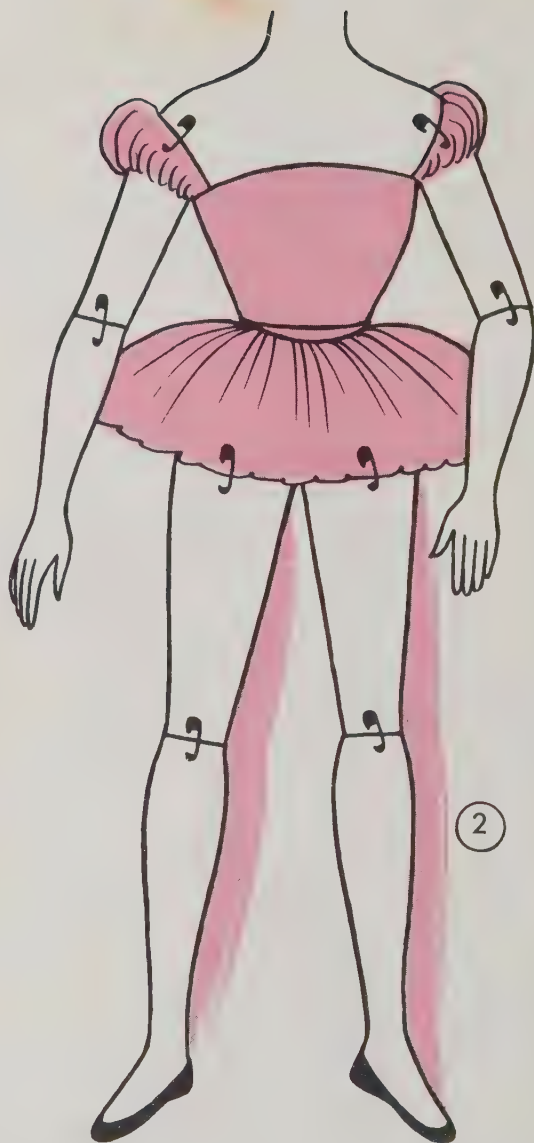
CARDBOARD MARIONETTE—Draw the man and body of the bird in one piece. Paste on cardboard. Cut out. The head and neck of the bird are drawn in another piece, and attached with a metal clasp (*Picture 2*).



A DANCING DOLL

Use a paper doll pasted on cardboard to make a marionette (*Picture 1*).

The legs and arms must be able to bend. You make them bend by cutting them off and joining them again with



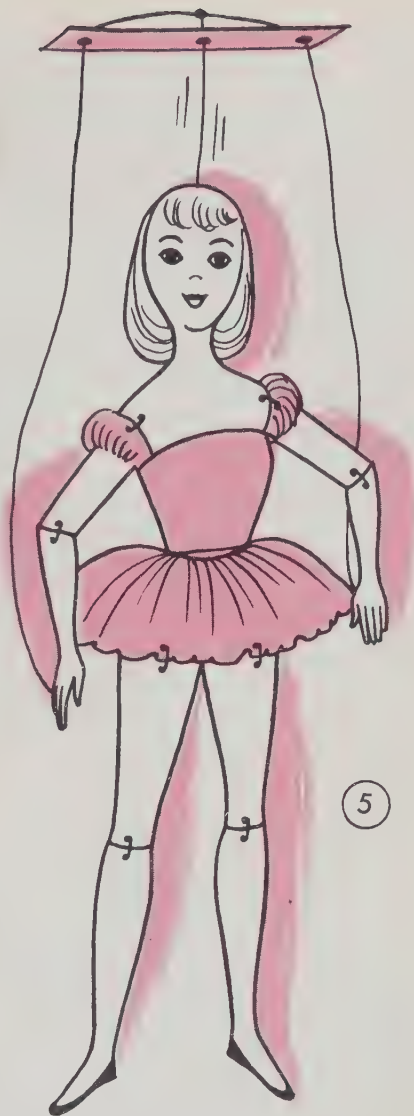
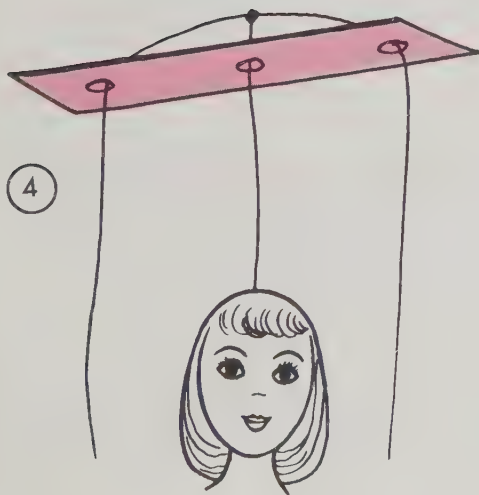
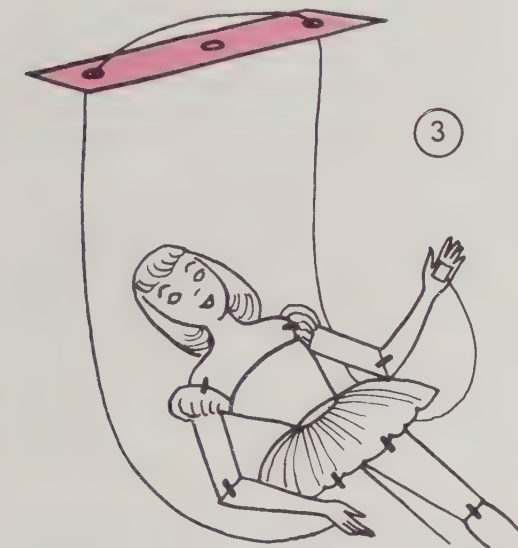
small safety-pins. Cut the arms at the shoulder and elbow, and the legs at the hip and knee (*Picture 2*).

You can make the doll dance on a string. This is how you do it:

Take a piece of cardboard 8 inches

by 1 inch, and make three holes in it—one at each end and one in the middle (*Picture 3*).

Next, thread the ends of the string through the two end holes in the cardboard and fasten them to the doll's hands with scotch tape. Leave the string quite loose, as in the picture.



Tie a short piece of string to the middle of the first string, pass it through the center hole in the cardboard, and attach it to the doll's head (*Picture 4*).

Hold the cardboard so that the doll's feet just touch the table, move the middle string, and your doll will dance (*Picture 5*).



Photography



What Is a Camera?

Before the Eighteen-thirties no one had ever had his picture taken by a camera. The portraits we see in Art Galleries of famous historical characters were all painted by artists. And so were the early pictures of landscapes and buildings. But in 1839 a Frenchman named Daguerre invented a method of taking pictures mechanically. The pictures he made were called daguerrotypes. Later the method was made simpler and was called photography. Today people all over the world take photographs, some to earn a living, some as a hobby.

A camera is a box with a small lens, like a window, let into one end. This lens has a shade or shutter over it. When you raise this shutter, the camera fills with light, and when you drop the shutter the camera grows dark again. In between the raising and dropping of the shutter an image is formed on the back of the camera, and that image becomes your photograph.

So the three most important parts of the camera are the lens, the shutter and the opening you make when you open or close the shutter.

In photography the image is formed not on the back of the camera, but on

a sensitive film you put inside the back of the camera. You call this "loading" the camera.

You will find printed instructions for loading the camera on the film package. Follow them carefully. Or if you have any trouble understanding them, ask some older person to show you how to put in the film and take it out.

There are many different kinds of cameras, so you will have to study your own and learn how to take good pictures with it. The hints you will find in these pages should help you.

Snapping the Shutter

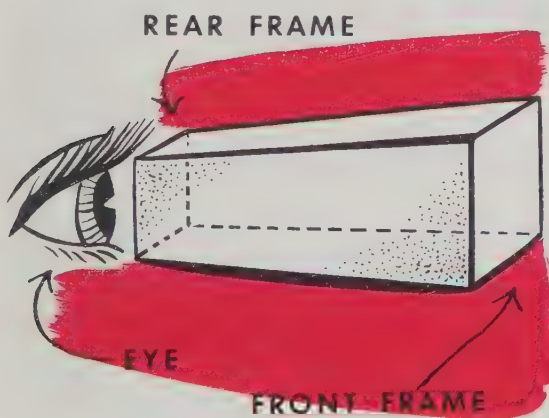
It might seem that nothing could be simpler than just "pushing a button" to snap a picture. Even so, there are some things to keep in mind if you want to get good results.

First of all, you must make sure your camera sees exactly what you want to have in the final photograph. For this purpose, most cameras have a *view finder*. One kind uses a separate lens mounted at the edge of the camera. Looking down into it, you see a small image of everything that will be in your picture. There may be two such finders on your camera, one for tall pictures, the other for sidewise ones.

Many cameras have what is called an *eye-level* view finder. This is a sort of tube which you look through as you hold the camera in front of your face. Bring the finder to your eye so you can just see the edges of its front frame as you look through the rear frame.

Hold the camera perfectly still at the moment you snap the shutter. If you move the slightest amount, the whole picture will be blurred. In order to avoid swaying or jiggling, stand firmly with your feet slightly apart, bracing the camera against your body or your face. Then slowly *squeeze* the shutter button—do not jab it. It is also a good idea to hold your breath at that instant.

Make sure your finger does not accidentally get in front of the lens as you hold your camera, or your picture may look like the one opposite.



An eye-level view finder. When the two frames are lined up with your eye, the final picture will be what you see through the front frame.



A finger in front of the lens . . .



. . . does this to the picture.

Whenever there is danger of the sun shining directly into the camera, have someone hold a magazine or a square of cardboard so that its shadow falls on your lens. If this is not done, the picture will be "light-struck." The person holding the sunshade must stand well aside to avoid getting into the scene.

If you are photographing someone who cannot help squinting uncomfortably in strong light, you can still make a very successful photograph in open shade alongside a house, or on a covered porch. As long as you make sure that the day is bright and sunny, there will be enough scattered light for a clear picture without using direct sunlight.



The camera moved.

The Light in Your Snapshot

You found out on page 276 how light makes your picture. Now you should learn to use daylight so that it gives you the best possible results.

The important thing to remember is that sunlight must shine *on the subject* that is to be photographed, and *never on the camera lens*. This does not mean that the sun's rays must always be aimed exactly at the front of the subject. You can get very beautiful effects with sunlight coming from one side of the subject, or even from a little in back of it.



Shading the camera lens.



A light-struck picture.



Using light from the side.



Open shade, but a good picture.

Photographing a Person

Soldiers or football players may be photographed to appear strong and square-shouldered, standing stiffly, facing straight ahead. But for almost everyone else such a pose is not attractive, as you can see from the bottom picture on page 281 .

A position that is too relaxed is not good either. This is plainly shown in the first picture of the boy in the chair, on page 280.

One way of getting a natural pose is to turn the body slightly away, with the head facing toward the camera. This

has made an improvement in the second picture of the boy. He is now sitting straight without being stiff, and his legs and arms are no longer hanging limp. Just by keeping such points in mind, a photographer can quickly change a bad pose into an attractive one.

Also, in taking the second picture, the camera was brought closer because the main interest is the boy and not the trees that formerly took up so much space. Notice, too, that the camera was turned to take advantage of an up-and-down subject.

Be careful about choosing a background. A plain wall or a bush is excellent, and best of all backgrounds is the sky. The background in the first picture of the girl is far too "busy." In the second one the sky was used instead, and the small picture shows how it was done by placing the girl on a slight rise in the ground.



pose into an attractive one.



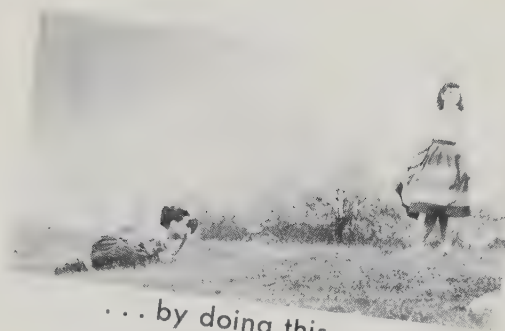
The photographer can quickly turn a bad



Change a "busy" background . . .



... into a neat one ...



... by doing this.

Photographing Groups of People

If you tell a group of people you are going to take their picture, they will usually line themselves up stiffly like a row of tin soliders. It is up to the photographer to improve the pose.

A park bench or the steps of a porch make good gathering places. Arrange the people so that they are not posed exactly alike. Then snap the shutter promptly, before they have time to take on a "frozen" look. In the first picture (right), the expressions of the girls are strained as the result of waiting too long

for the photographer to snap the shutter. The second picture is better because it was snapped just as the girls went into a new and more relaxed position.

At first glance, the two bottom snaps (page 282) seem similar, but on studying them you will see that the second is much better. You can figure out what changes were made. Among other things, notice that the camera was shifted a little to one side so that the youngsters could turn their heads toward it, giving the picture a more lively effect.

Remember that when people are the most important part of a picture, the camera must be brought up closer. This has made an improvement in both illustrations here.



A "frozen" pose.

Get a Little Closer

With a beginner's camera it is not possible to get nearer to a subject than about 6 feet. In order to make a "close-up" picture, it is necessary to use a special lens that can be bought quite inexpensively in any photographic store.

This *close-up attachment* is very simple to use. It is just an extra lens that you fit over the regular camera lens like a bottle cap. Then you can come as close as 3 or 4 feet. And remember that at a distance of only 4 feet from the camera, a face will appear twice as large in the picture as when taken at a distance of 8 feet.



A relaxed pose.

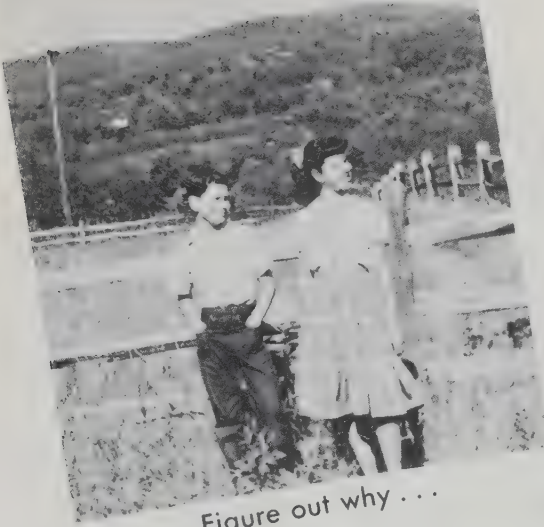
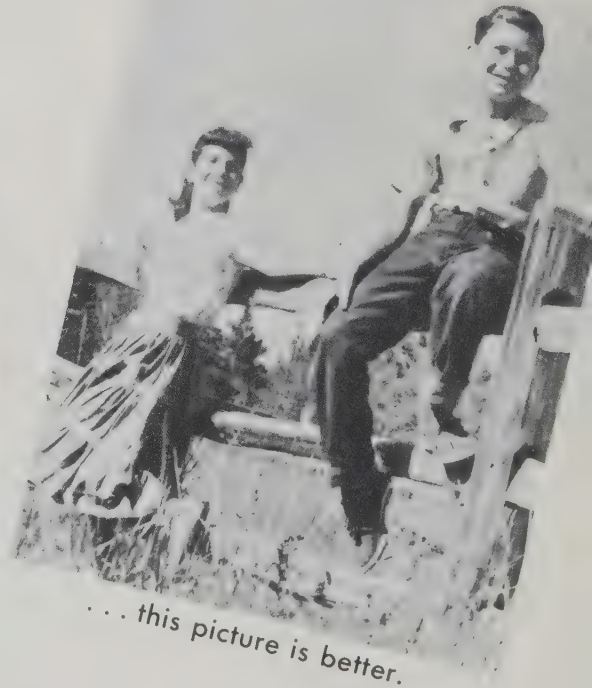


Figure out why . . .



. . . this picture is better.

In making pictures close up, there is one important thing to watch. Your view finder (described on page 277) can no longer tell you exactly how much of the subject appears in the picture. For example, if you aim the camera so that a person's head seems to take up nearly the whole finder, you will discover later that you have cut off the top of his head! To avoid this when using the close-up attachment, you must keep your subject down in the lower two-thirds of the finder. Then you will be sure that he will be properly placed in the final picture.



Too high in the finder.



As easy as putting on a bottle cap.



Without a close-up lens.



Picturing Land and Sea

A camera is a wonderful instrument but it cannot do as much as the human eye. There is a real thrill in standing on a mountain top and seeing the beautiful countryside stretching out endlessly below you. But those miles and miles of landscape will not look like much when squeezed into a small snapshot.

In most cases it is best to take smaller

portions of a large landscape. Often a picture is improved if something else of interest is included in the landscape—perhaps a house, a person or an animal.

The simple country scene shown on page 285 becomes an excellent landscape picture because it was planned before it was taken. The photographer waited until the sun was shining on only one side of the houses. This made them stand out, giving a more “3-D” effect. The boats were included for interest. Bringing the left bank of the river into the picture helped to “frame in” the water.

The ocean or a lake are wonderful sights to see, too, but they often make flat and uninteresting photographs when there is nothing else in the picture. If you can manage to turn your camera to include parts of a distant shoreline and if, besides, you are lucky enough to have a boat pass by, your water scene will be much improved.

Look around a bit before you snap that picture at the lake. Perhaps the dock with its interesting reflections will make a good foreground. Or shift your position so that you can include some fishermen or swimmers.

Before photographing a landscape, take enough time to look at the scene from different angles so that you can choose a position that will give you the best picture.

The first of the pictures on page 286 shows a country lane. It is pleasant enough, but when you think about it you realize that the wagon tracks rising



A simple country scene can make an artistic photograph.



A small part of a large landscape.



Luckily, a sailboat was passing.



Attention to details will improve your pictures.



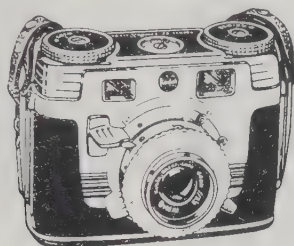
Winter reflections.

straight up out of the bottom of the photograph give the whole scene a rather stiff appearance. The second view is much better, with the road curving gracefully in from the side of the picture. The people in the foreground give an extra spark to the scene.

While you may make most use of your camera in summer, keep your eyes open for good pictures in winter, too. It

is not only the "Christmas card" landscapes, covered with deep snow, that make good cold weather scenes. The photograph on the previous page, with the bare trees reflected in the icy river, gives an excellent idea of twilight on a bleak winter day.

Every season of the year will reward you with good camera subjects if only you learn to look for them.



Buildings in Your Pictures

When taking pictures of houses or other buildings, you cannot make them pose. There they stand, firm and unmoving. It is the photographer who must shift his position and arrange for proper conditions.

Here are some of the things you can do to improve the photograph of a building. Choose a position slightly to one side so that you can see some of the side of the building as well as the front. A picture taken squarely in front of a house

will make it look as though it were only a flat wall.

Wait until the light is proper. As suggested on page 284, it is good to have the light come somewhat from the side so that one wall is partly shaded. This will make the building seem to have depth.

While you usually want your picture to include the entire building, do not overlook coming in closer now and then for details such as an interesting entrance or a handsome window.

When a picture is taken with the camera tilted upward, the result is a peculiar, leaning-backward effect called "convergence." For tall buildings, move back until you no longer have to tip the camera upward to get the entire height of the building.



Photograph your school building.



The building will lean back . . .

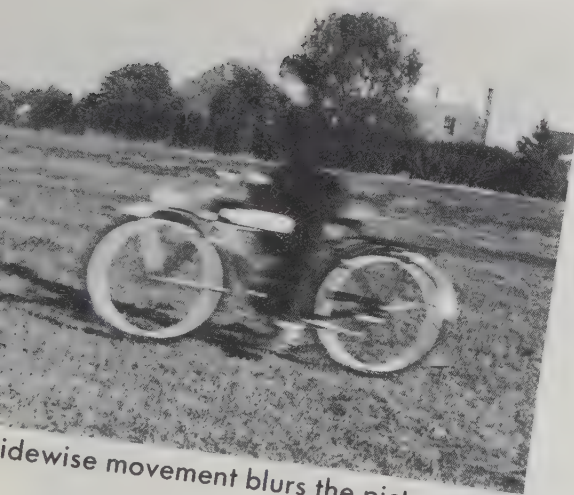


. . . unless taken from a distance.

Catching Action

If you try to photograph something that is moving rapidly past you, the result will be a blurred picture like the one of the boy riding a bicycle. As he whizzed by, his image on the film moved during the time the shutter was open. However, there are ways of getting good action shots of things in motion.

The closer you stand to a moving object, the harder it is for your eye or your camera to "stop" the motion. If the bicycle in the first picture below had been farther away from the camera, the picture would not have been blurred. But this would also make the bicycle appear very tiny.



sidewise movement blurs the picture.



Moving objects should be photographed "head-on," or nearly so, and never when they are moving crosswise. The second picture shows the boy riding almost straight toward the camera. His speed and distance were the same as before, but this time everything is sharp. This is because anything moving straight toward you or away from you changes its size and its location in the picture very slowly so that the movement hardly shows. Notice that, in order to get a good shot of the parade, the photographer ran out into the street until he was almost facing the marchers instead of taking a position right alongside.

There are times when it is better not to get rid of every bit of movement. In the picture here, the blurred hand and beach ball give a good idea of action.



Face the action . . .



. . . and the picture will be sharper.



Sometimes a slight blur is helpful.

Candid Snapshots

To a photographer, a "candid" shot is a picture of anyone not purposely posed. Often the subject does not even know that the picture is being taken.

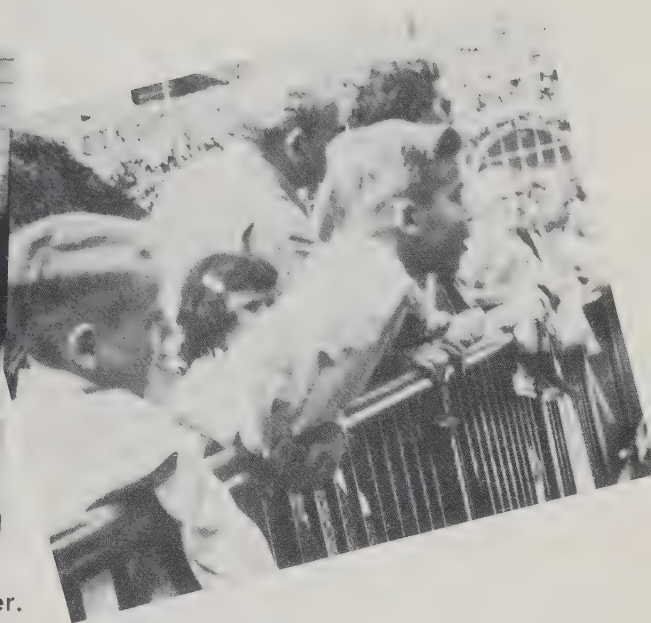
To take candid snapshots, watch the subject through the finder of your camera and be alert to click the shutter the instant you see what you want. Work quickly and try to remain unnoticed. If the light is good and the subject is not moving too much, you will get a candid picture.

The checker players did not know a photographer was at work, and the result is a pleasant, natural action picture. The photograph of the children at the zoo is much better as a candid shot than if it had been posed. The spaghetti-eating group realized that the photographer was at work, but they paid no attention as they ate their lunch.

An alert photographer can get the candid shots he wants whether the subject knows the picture is being taken or not.



They did not notice the photographer.



They saw him, but paid no attention.

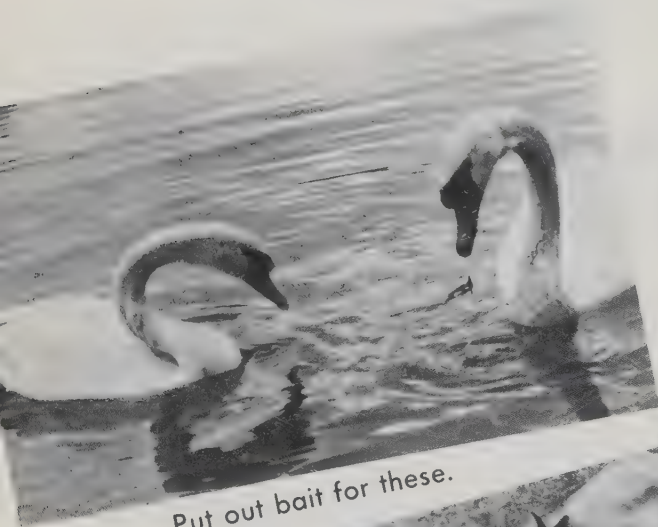
Animals

Photographs of animals add interest and variety to a picture collection. A framed enlargement of your own pet is especially nice to have.

Patience is the most important thing in photographing animals. To get a good picture of your dog, it helps to have someone coax him to sit still in the sunshine while you frame him in your finder and get ready to snap the shutter. Keep in mind that you want a picture of your dog and not the grass and bushes around him, so move up close enough.

Remaining quiet and calm is good advice for all animal photographers. Do not call excitedly and run around trying to shift to a better camera position. Let the animals get used to having you around, and then if you are quietly alert you may be rewarded by some unusually good photographs.

For smaller animals such as rabbits and squirrels, use a close-up attachment, as explained on page 282. Put down some bait and measure the distance. Stoop or sit down, so that your camera is almost on a level with the little animal. Patience and some quiet coaxing should give you the good snapshot you want.



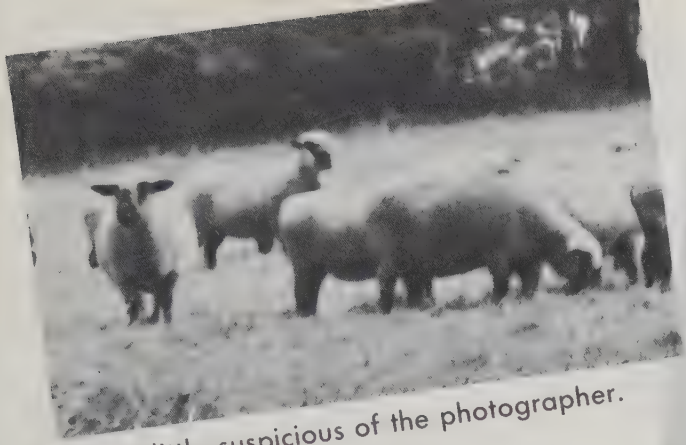
Put out bait for these.



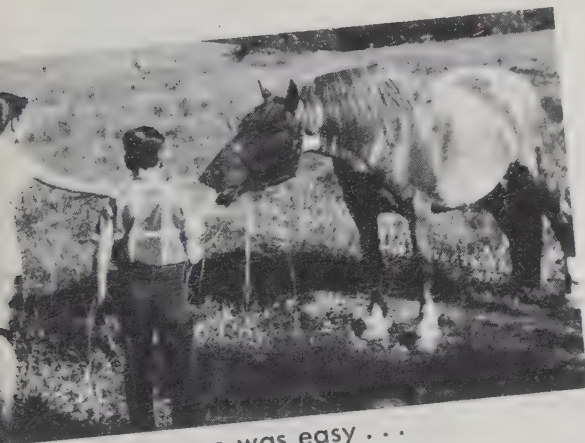
Your own pet.



Let them get used to you.



A little suspicious of the photographer.

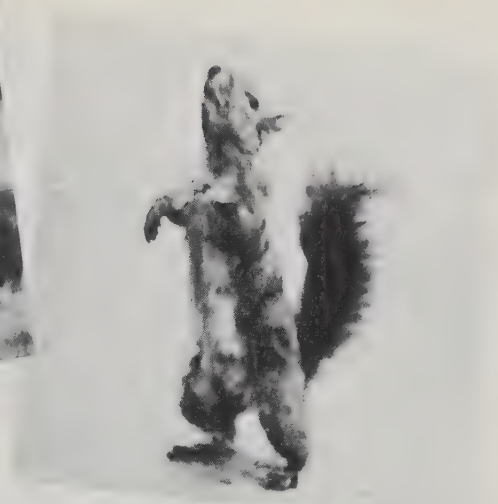


This one was easy . . .

Quick as a Flash

Anywhere, anytime, in any kind of weather—these are the really exciting features of flash photography. Aim your camera, click the shutter, and presto! You have a picture, night or day, indoors or outdoors.

With a simple flash outfit, the lamp is mounted right on the camera and goes off the instant the shutter is opened.



. . . but this took some arranging.

The light is very intense but lasts for only a small part of a second. This means that the scene is flashed so quickly that it is possible to stop most action. The light from a flash bulb “thins out” with distance, so your subject should not be more than ten or twelve feet away.

Each flash outfit comes with its own special operating instructions. After you have studied these and had a little practice, you will find flash photography no more complicated than putting in the lamp, taking the picture and ejecting the lamp—all, of course, done as directed.

Keep your eye on your view finder and shoot when the scene is what you want. At home, at school, at parties, there are endless chances for good flash pictures. Get the activities of the smaller children around the house, and remember that close-up shots (as explained on page 282) can be taken with flash, too.



Flash the smaller children's activities.



Use the close-up attachment with flash.



Parties and dances call for flash shots.

Pattern Pictures

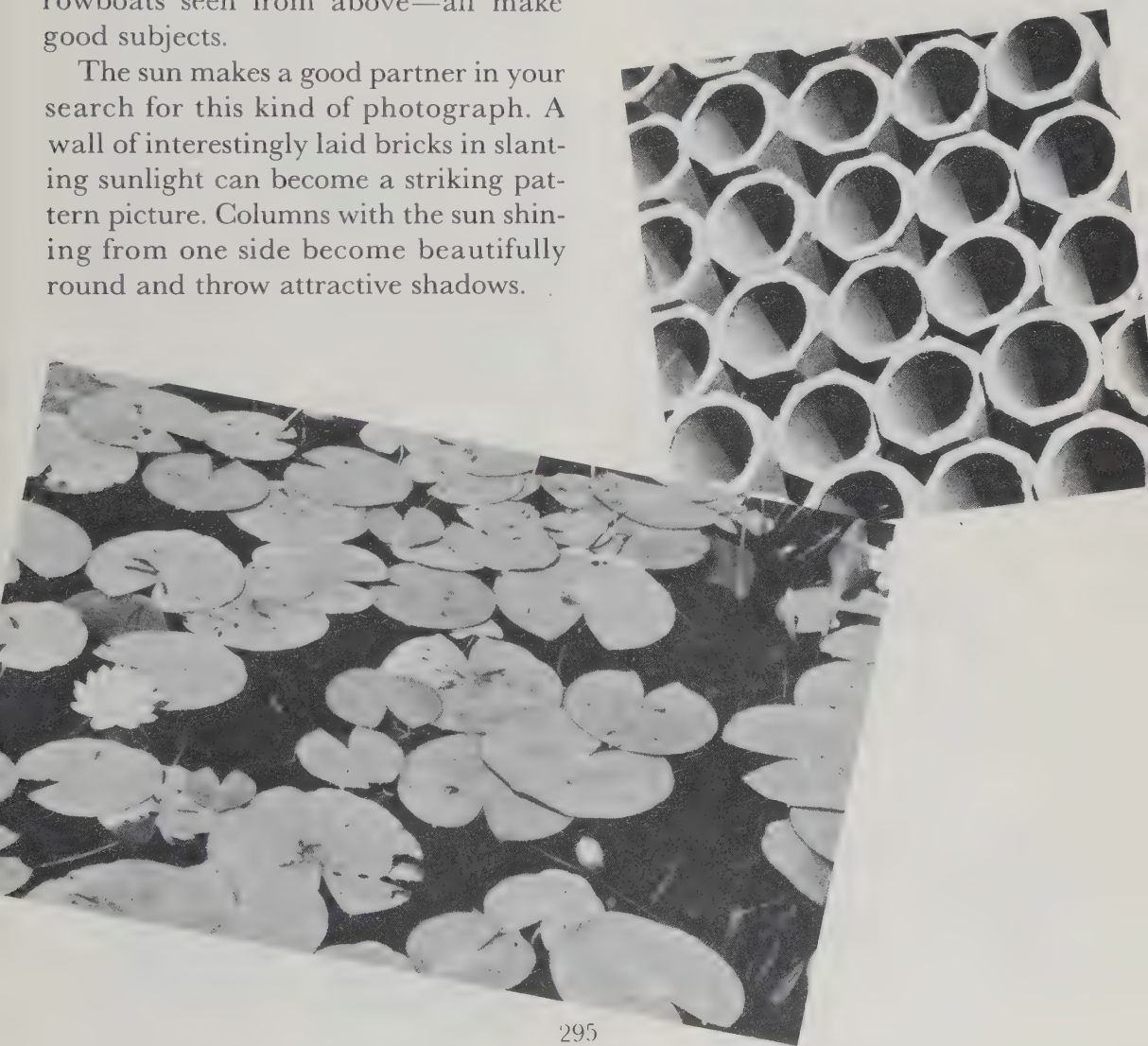
A “pattern” picture is one in which the subject makes a pleasant design. A pond with lily pads and a parking lot full of cars are good examples.

You can find pattern pictures in the most unexpected places. Great piles of empty gasoline drums; the graceful spans of a suspension bridge; a group of rowboats seen from above—all make good subjects.

The sun makes a good partner in your search for this kind of photograph. A wall of interestingly laid bricks in slanting sunlight can become a striking pattern picture. Columns with the sun shining from one side become beautifully round and throw attractive shadows.

It is best to try to fill the picture with the pattern to give the feeling of an all-over design. The pile of drain pipes did not look like a good pattern subject until a close-up lens was used.

Train your eyes to catch patterns in commonplace things where design, light and shadow join to make an interesting photograph.



To make snapshots like these, you need the help of others. The smaller picture along side each "trick" snapshot shows how it is done. Because the dancing girl is so much farther away from the camera, she seems to be small enough to dance in the boy's hand. The person who handles the camera must sight very carefully through the finder so that the feet of the dancer seem to rest on the proper spot.

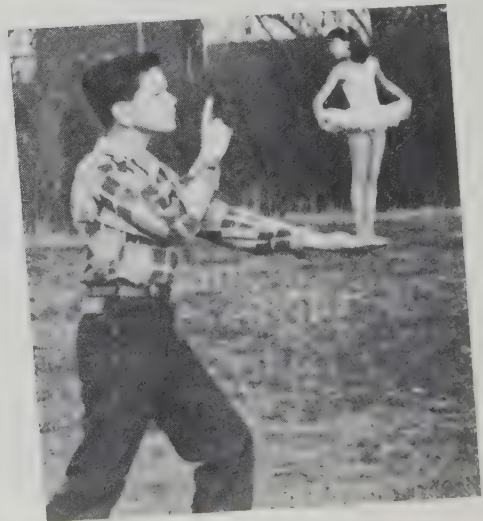
For the hand-stand snapshot, the one who takes the picture must lean quite far over, holding the camera exactly parallel to the ground. Otherwise the position of the boy's body will not be right.

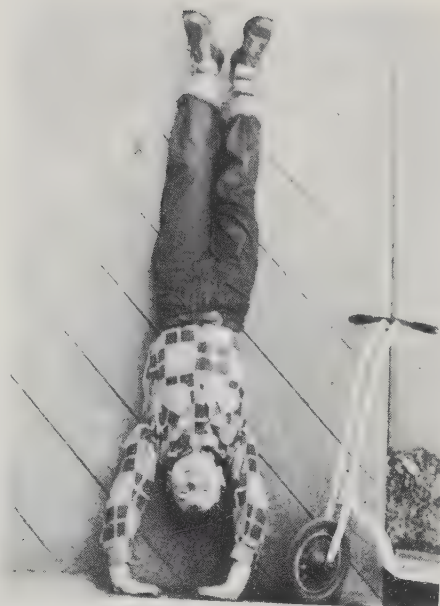
The picture of the hard-working mountain climber was taken by setting the scene on the top of a small hill, with nothing but sky for background. The photographer tilted the camera, and also made sure that the other people were completely out of the picture.

Trick Pictures

Can you make a live doll dance in the palm of your hand? You can show your friends a picture of this remarkable trick and keep them wondering about it until you feel ready to give away the secret.

Maybe you are not very good at standing on your hands, but you can surprise everyone by showing a picture of yourself doing that very thing, and quite well, too.





Keeping Your Pictures

It is always an exciting moment when you first see the prints of a roll of pictures you have taken. As a good photographer, face your failures at once. Throw away that double exposure and that mysteri-

ous blank where you probably turned the roll past the picture number. Then store away in a box the snapshots that are not really good but which you want to keep as a record.

There are many ways of keeping the remaining good photographs. Those you want to carry with you can be put into transparent envelopes in a wallet-like folder for your pocket. Most of your best pictures can be mounted in an album with convenient corner stickers. Write the date or any other interesting information under each print.

Occasionally a picture is good enough to deserve special attention. Any store where photographic work is done can make enlarged prints for a reasonable price. The final enlargement can be

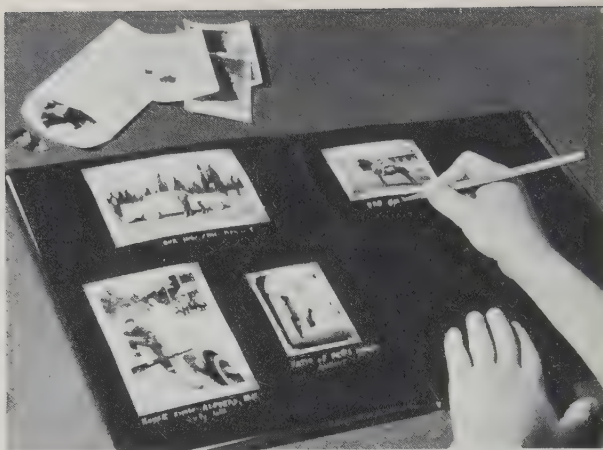
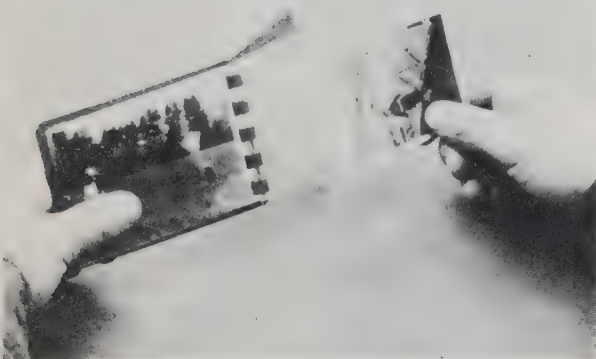


Photo album.

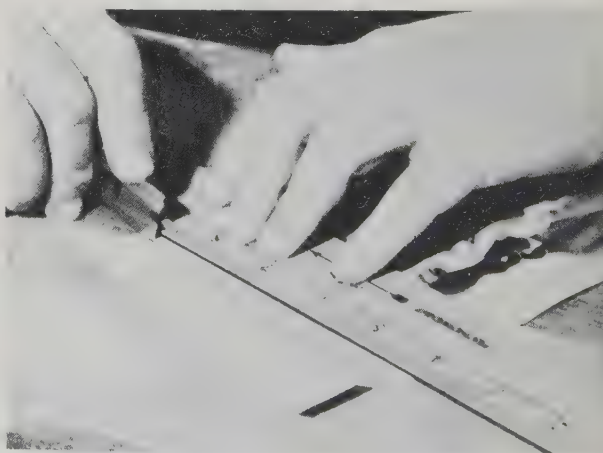


Snapshot wallet.

trimmed to cut off any unwanted parts. Then it can be hung in a ready-made frame which can be purchased in many sizes.

Another way to hang your enlarged prints is to mount them under a thin piece of glass cut to the proper size. You can get the glass and have it cut at your local hardware store. Use stiff cardboard

as a backing, and bind everything together firmly with self-sticking cloth tape. The pictures show how to do it. A gummed-paper hanger can be pasted to the back of the picture.



Trim the enlarged print.

Greeting Cards

A photographic greeting card is more personal than the ordinary kind because not only the words, but the picture too, carry a special message from the sender.

The easiest thing to do is to buy, at your local camera store, folders printed with appropriate words and holiday decorations. These have ready-cut openings, and all you have to do is slide a print into place.

Another thing you can do is to pick your favorite negative and have prints made directly onto holiday greeting cards. There is a large selection of these cards in the stores at the proper season.

Or, if you have a flash outfit, take a shot of the family around a stocking-hung fireplace, or in any other holiday type of setting that you can work out. Then slip the finished print into an envelope and send it, for it is the card itself.

You can make picture greeting cards as a crafts project. Pick a suitable negative, perhaps one showing your house covered with snow, or a close-up of your doorway hung with a Christmas wreath. A shot of the whole family could be used, or a gay scene of just the children.

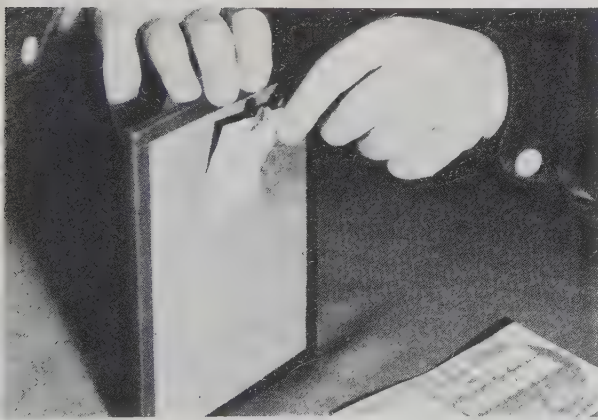
Have prints made and then cut the borders in the shape of a Christmas tree or a star, or any holiday design. The illustration shows a print cut in the shape of a bell. Now paste each picture cutout on a piece of heavy, decorative paper—red, green or silver are especially



Glass-picture-cardboard.



Bind with tape.

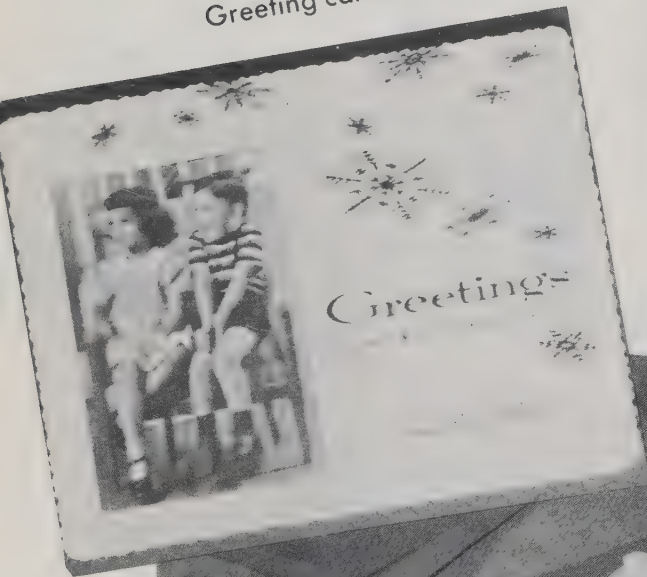


Attach hanger.

suitable colors. Finish by lettering your personal message on each card.



Greeting cards from your own negative.



The picture itself is the greeting card.



Write your greeting on a snapshot cut-out.



Know Your Tools

HAMMER

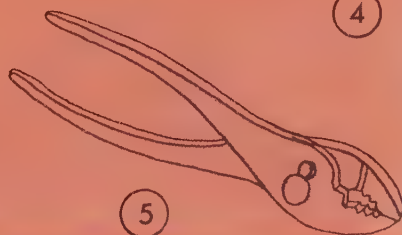
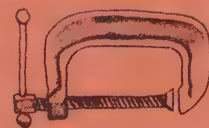
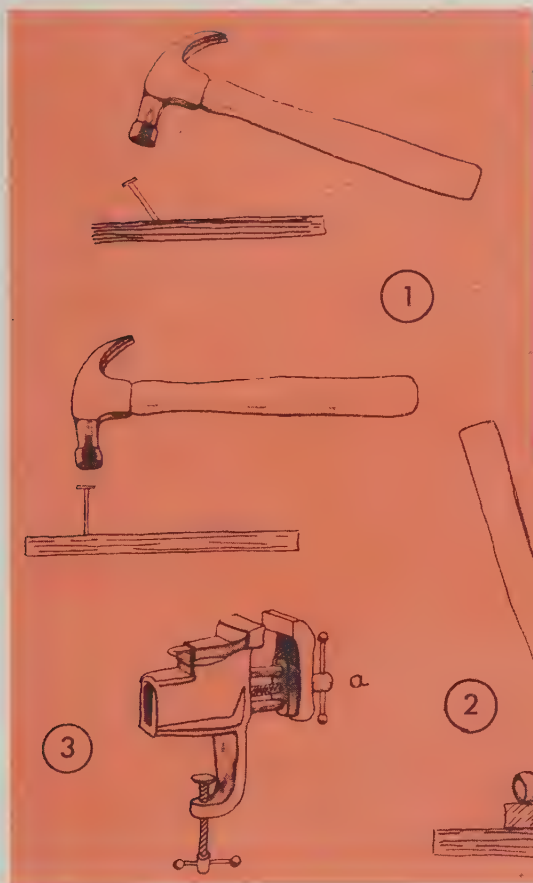
Striking the nail at an angle will bend it. Strike head of nail flat to drive it straight (*Picture 1*). Long nails may be removed by placing wood block under hammer head (*Picture 2*).

WISE

Vise may be fastened to desk, table or any other projecting edge. Pin (*a*) turns to open or shut jaws (*Picture 3*). Vise illustrated is a machinist's vise for metal and hard objects. It may be used for wood if jaws are padded with felt, or by placing wood in vise between protecting pieces of scrap wood to prevent marring finished surface.

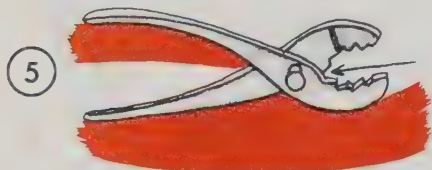
"C" CLAMP

Use for holding flat objects together, such as two pieces of wood (*Picture 4*). Use this clamp to hold bench fork, used in coping-saw work. (See page 303 for how to use a coping-saw.)



PLIERS

Use for general holding purposes, bending metal or wire. To cut wire, place between jaws (as far as possible) and close pliers (*Picture 5*).



SCREW DRIVER (*Picture 6*).



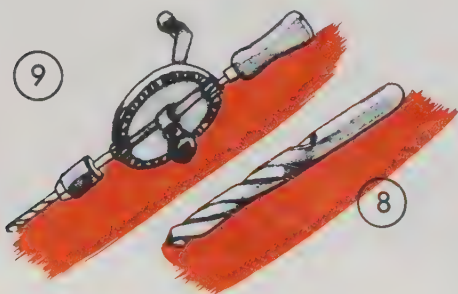
FILE

Use for smoothing wood or metal. Hold file flat, point or handle toward you. Pressure on forward stroke only (*Picture 7*).



HAND DRILL

Use for drilling holes in wood or metal. Twist drills are available in a variety of sizes. (*Picture 8*). Turn drill chuck to remove the twist drill (*Picture 9*).



Wood Finishing

NATURAL FINISH: Sandpaper thoroughly until grain shows clearly. Apply thin coat of shellac. When dry, rub lightly with fine steel wool. Apply second coat of shellac; allow to dry; again rub with fine steel wool. Apply floor wax or any other cake or paste wax. Wait fifteen minutes; then rub to a luster.

STAINS: Oil stains may be obtained in various finish colors, such as walnut, oak, mahogany. Apply stain with cloth or brush; then wipe piece dry with clean cloth. If darker tone is desired, repeat staining procedure. Apply shellac next day. When dry, wax as for a natural finish. Do not sandpaper stained surface.

PAINTS AND ENAMELS: Wood surfaces, usually porous, must be sealed before applying a finish coat of paint. To seal the surface, apply coat of shellac and allow to dry. Apply a thin coat of enamel or paint over the shellac. Allow this second coat to dry. Sandpaper it lightly to remove gloss. Then apply final coat of paint or enamel. Dull spots in final dry coat indicate porous spots in wood, not thoroughly sealed.

When using paint or enamel, apply only a small quantity at each stroke, spreading out each bit before applying more.

TO CLEAN BRUSHES: Clean shellac brushes in alcohol. Clean paint or enamel brushes in turpentine, benzine

or gasoline. Don't clean your brushes in poorly ventilated rooms. *NEVER* clean brushes near a fire.

SANDPAPERING: Sandpaper comes in various grades of coarseness. No. 0 is good for general use. For very fine work, No. 000 is best. For work on a flat surface, wrap sandpaper around a block of scrapwood, then rub in direction of the grain, *never* across the grain.

Sandpaper should always be torn into small pieces over the edge of a desk, table, or board. Never cut sandpaper, as the abrasive particles will dull the sharpest knife or scissors.

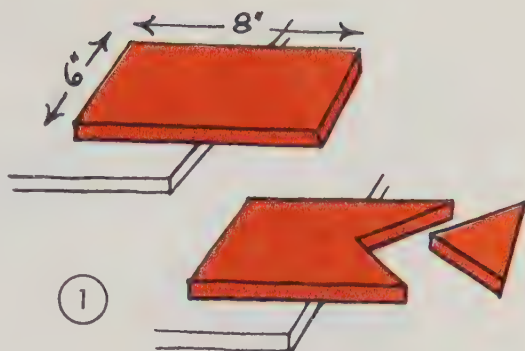
Wood to be painted should always be sandpapered well with No. 1 or No. 0 paper. When preparing wood for natural finishing, sandpaper with No. 0, and finish with No. 000.

HOW TO USE A COPING-SAW

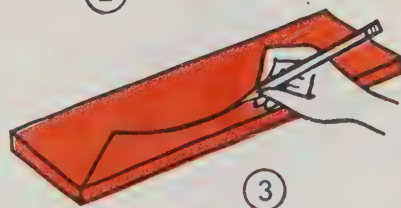
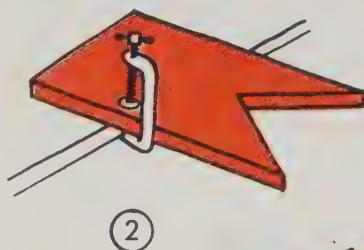
First make what is called a bench fork. This is a piece of wood about 6" by 8" by 1", with a V-shaped piece cut out of it (*Picture 1*).

Next, fasten the bench fork to the edge of an old table or desk, using a "C" clamp. This is called a "C" clamp because it is shaped like the letter C (*Picture 2*).

Draw in pencil, on the surface of the wood you are going to cut, the outline of whatever shape you want to cut out. Start cutting from the edge of your piece of wood in a straight line until you reach the outline. Then continue cutting along the lines you have drawn in pencil (*Picture 3*).

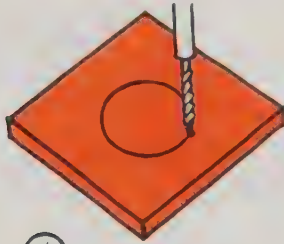


If you want to cut out a piece of wood inside the figure you will have to drill a hole somewhere on the outline of this inside figure for the coping-saw blade to go through. You will have to open the saw so that you can pass the blade

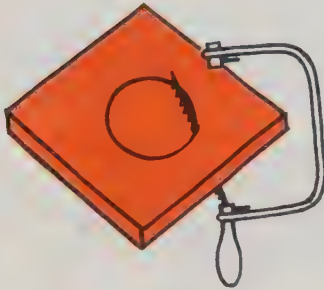


through this hole. To open the coping-saw and free the blade, turn the handle to the left (*Pictures 4 and 5*).

When you have passed the blade through the hole, close the saw by turn-



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⑤



ing the handle as far as it will go to the right. This will hold the blade taut.

Saw all around the outline of the inside figure. Then open the saw by turning the handle to the left and remove the blade. Close the saw before putting it away.

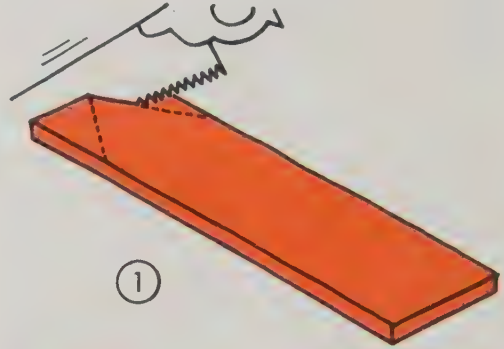
LAWN SIGN

YOU WILL NEED:

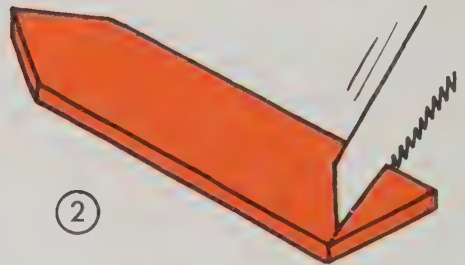
A 2-ft. long post, 2" wide and 1" thick (or a 2-ft. sapling 2" in diameter).

A board 13" long, 5" wide, $\frac{3}{4}$ " thick.

Cut the bottom of the post to a point with a saw. This will make it easier to



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②

force it into the ground (*Picture 1*).

Cut the top of the post a little aslant so that the rain will run off (*Picture 2*).

Use a coping-saw to round off the edges of the board, or ask a grown-up to do this for you if you are not old enough to use a coping-saw. (*See page 303 for how to use a coping-saw.*)

Sandpaper the signboard until it is smooth all over, front, back and edges.

Nail it across the top of the post and give three coats of paint to both the board and the post.

When the last coat of paint is dry, paint the number of your house on the board. Before you begin, rule lines in pencil to help you keep the figures of the number in a straight line (*Picture 3*).

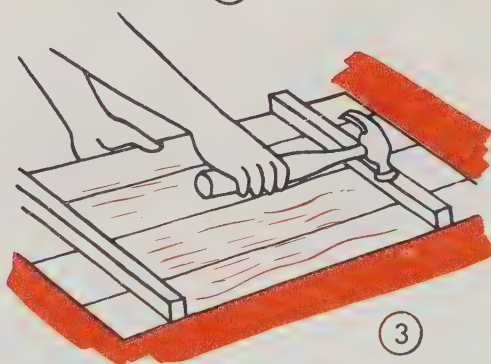
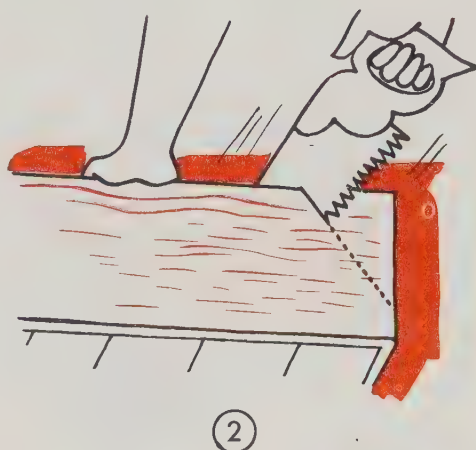
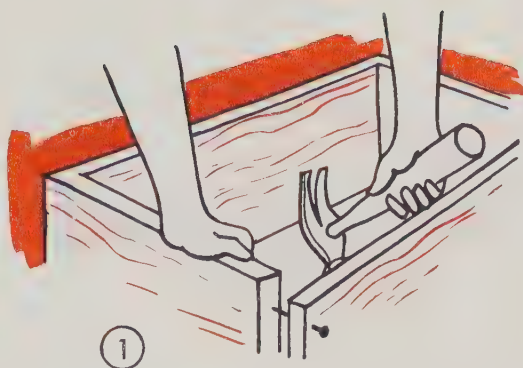


DOG'S BED

YOU WILL NEED:

- A tomato crate.
- 2 strips of wood, a little longer than the width of the crate.
- Nails.
- Hammer.
- Paint.
- Cloth for blanket.

Take off one of the long sides of the crate, carefully, so that you do not split the wood (*Picture 1*).



Saw off the two front corners. (*Picture 2*). If you are not old enough to use a saw get some grown person to do the sawing for you.

HANGING BOOK-SHELF

YOU WILL NEED:

Pine wood — 18" long, 8" wide,
 $\frac{7}{8}$ " thick (2 pieces)

Pine wood — 11" long, 8" wide,
 $\frac{7}{8}$ " thick (2 pieces)

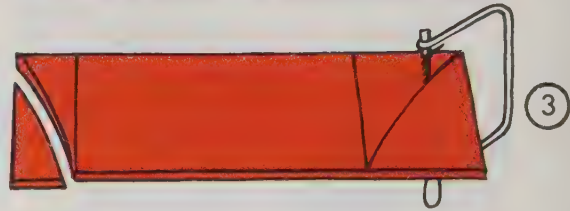
Plywood — 18" long, 12" wide,
 $\frac{1}{4}$ " thick (1 piece)



Turn the box upside-down and nail two strips of wood across the bottom from front to back. This will raise the bed off the floor a little. (*Picture 3*).

Use a hammer to bend over the points of any nails that stick through.

Give the bed two coats of paint. When the paint is dry, lay a piece of folded cloth inside for a blanket (*Picture 4*).



Some 1" common nails

2 screw-eyes

Sandpaper

Oil stain and varnish

Draw lines in pencil across each 18" piece of pine, 3" from one end and 6" from the other (*Picture 1*).

Draw curves (*Picture 2*).

Use a coping-saw and cut along the curves you have just drawn (*Picture 3*). (See page 303 for how to use a coping-saw.)

Glue the two 11" pieces of pine to the 18" pieces, and nail them together before the glue is dry (*Picture 4*).



Glue the plywood to the back of your book-shelf, then nail together before the glue is dry.

Smooth with sandpaper, then stain and shellac the book-shelf.

You can hang this book-shelf on the wall of your bedroom. Screw two strong screw-eyes to the back. Pass a wire through the screw-eyes and hang as you would a framed picture (*Picture 5*).

KNICK-KNACK SHELF

YOU WILL NEED:

Wood board 13" long, 4" wide, $\frac{1}{2}$ " or $\frac{3}{4}$ " thick

2 pieces of wood 10" long, 3" wide

1 piece of wood 10" long, 2" wide

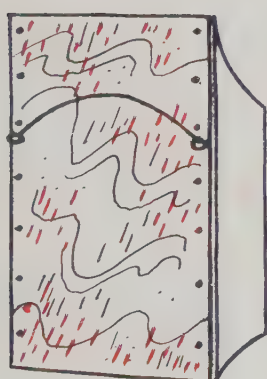
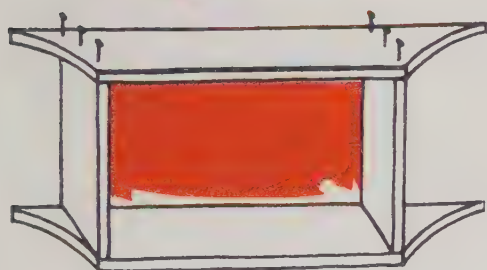
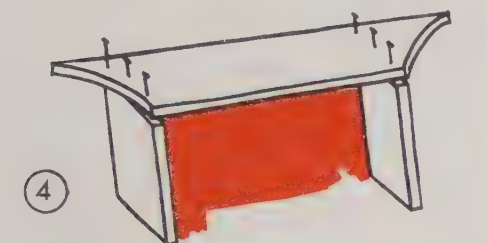
1" wire brads Shellac

Pencil and paper Steel wool

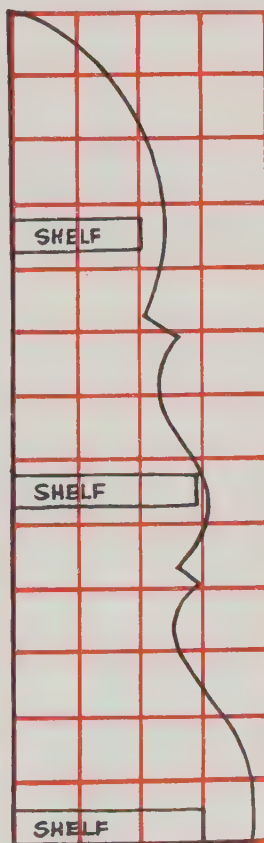
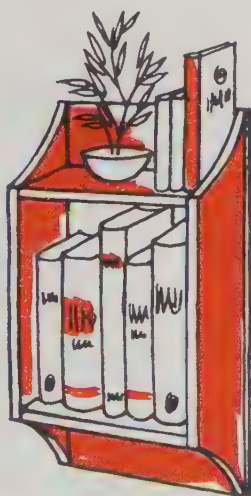
Glue Wax

Oil stain Picture hanger

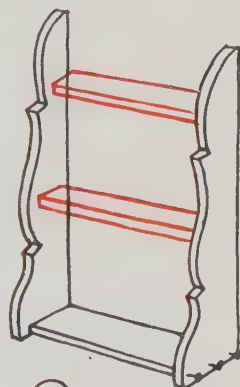
Draw 1" squares on your paper. You will have four 1" squares across the paper and thirteen 1" squares from top to bottom.



5



1



2



3

Copy the design for the side pieces of the shelf onto this squared paper. Cut out and use as a pattern (*Picture 1*).

Trace this design onto the 13" by 4" board.

Cut two side pieces, using a coping-saw to shape the curves. (*See page 303 for how to use a coping-saw.*)

The two pieces of wood 3" by 10" and the one piece 2" by 10" are the shelves, and they must be exactly the same length.

Sandpaper all the pieces you have cut.

Nail the bottom shelf into place, then the middle one, and then the top 2" shelf. Brush glue over the surfaces that touch each other before nailing each shelf (*Picture 2*).

You may finish the natural wood, or color it with oil stain. Apply a coat of shellac. When it has dried hard, rub it lightly with fine steel wool, then rub it with wax.

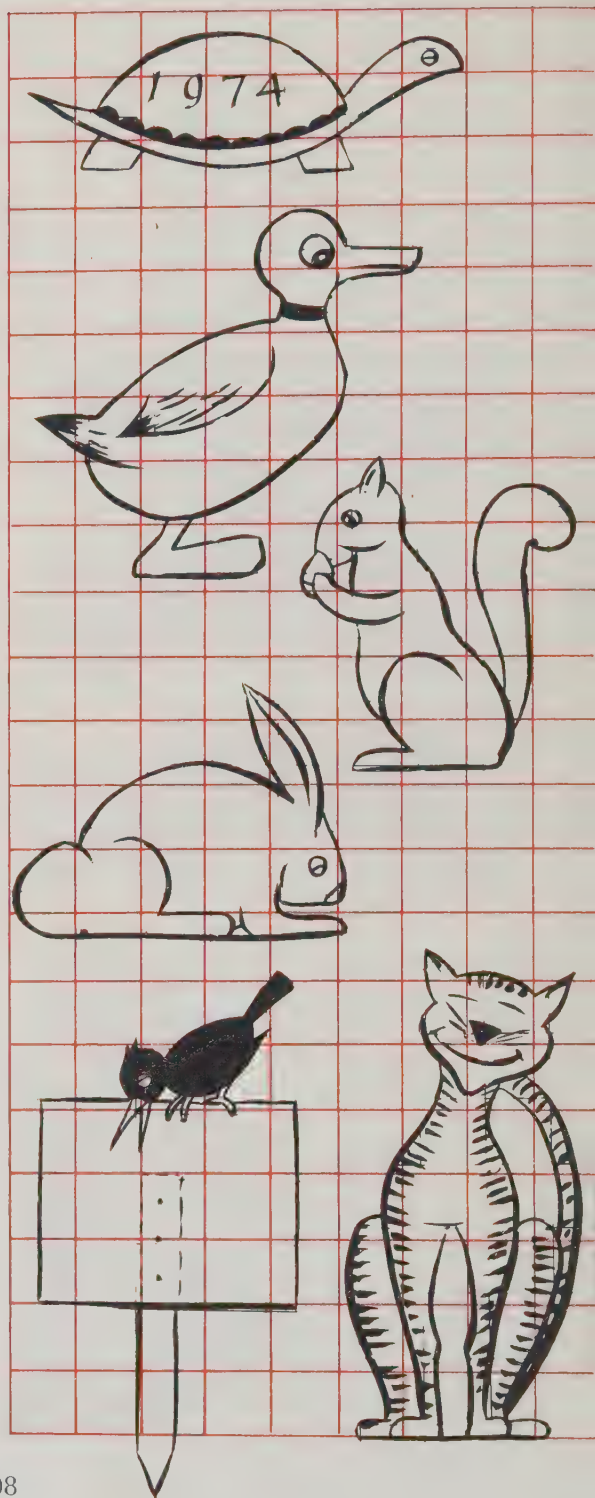
Fasten a picture-frame hanger to the back of each side piece, so that the knick-knack shelf can be hung on a wall (*Picture 3*).

If you want to make a bigger shelf for your knick-knacks, draw 1½" or 2" squares on your paper. Then your pieces of wood will have to be larger too.

CUT-OUT ORNAMENTS

YOU WILL NEED:

Paper and pencil Coping-saw
Shellac poster paint
¼" thick plywood Sandpaper
Thumb tacks Soft pencil



Rule 2" squares on a piece of paper, then copy the figure carefully. Use a soft pencil to blacken the *back* of the drawing. Place the paper against a piece of $\frac{1}{4}$ " plywood, with the drawing *face* up. Secure it with thumb tacks. Go over the drawing with a pencil; this will transfer it to the plywood.

Use a coping-saw to cut out the figure. (See page 303 for how to use a coping-saw.) File the edges to remove small rough spots, then sandpaper the entire piece until it is smooth.

For indoor use, ordinary plywood will do. Decorate the figure with show-card or poster paints. Apply a coat of shellac when the paints have dried.

For outdoor use, *waterproof* plywood is needed. Decorate the figure with oil paints, or any colored enamels. For added protection against the weather, apply a coat of spar varnish after the paints have dried hard.

Use waterproof glue and $\frac{3}{4}$ " brads to fasten lawn ornaments to a pointed stick, 2" wide and 12" long. The stick is then driven into the ground.

TIN CAN BIRD-HOUSE

YOU WILL NEED:

Pine wood 10" long, 8" wide, $\frac{7}{8}$ " thick (2 pieces)

Pine wood 6" long, 6" wide, $\frac{7}{8}$ " thick (2 pieces)

12—1 $\frac{1}{2}$ " nails

4 screw-eyes $\frac{3}{4}$ "

2 screws $\frac{3}{4}$ "

1 tin can with the top cut off smoothly

Punch two holes in the bottom of the can, using a nail and hammer (Picture 1).

Screw the can to one of the 6" pieces of wood, through the two holes you have just made. You can do this from the inside of the can, using a screwdriver (Picture 2). This makes the back of the bird-house.

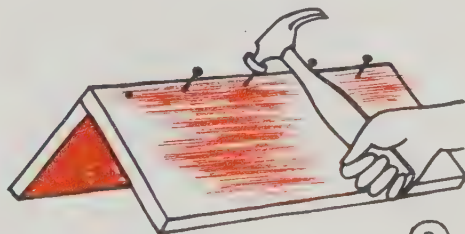


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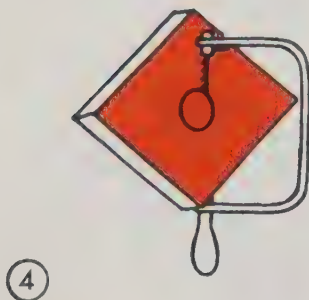
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Nail the two 10" pieces of wood together (Picture 3). These will form the roof of the bird-house.

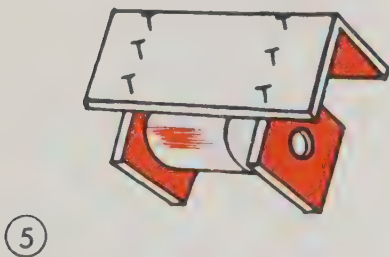


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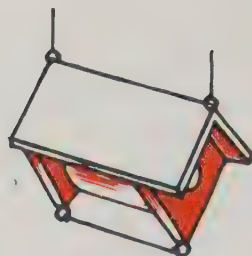
Use a coping-saw and cut a hole $1\frac{3}{8}$ " in diameter in the other 6" piece of wood for a door-hole (*Picture 4*).



Place this piece against the open end of the can. Now nail the roof to the edges of both 6" pieces (*Picture 5*).



Screw two of the screw-eyes on the roof, one at each end of the ridge. These can be used to hang the bird-house by cords to a tree. Screw the other two eyes at each end of the base of the 6" pieces. If you run a wire between these two screw-eyes and draw it tight, it will make a perch for the birds to land on (*Picture 6*).



A WOODEN BIRD-HOUSE

YOU WILL NEED:

Lumber: Pine, 7" long, 5" wide, $\frac{1}{2}$ " thick (2 pieces)

$8\frac{1}{4}$ " long, 6" wide, $\frac{1}{2}$ " thick (1 piece)

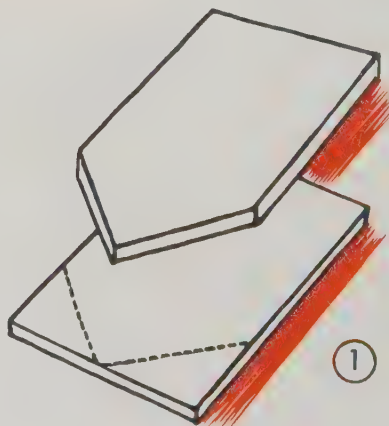
5" long, 7" wide, $\frac{1}{2}$ " thick (2 pieces)

10" long, 5" wide, $\frac{1}{2}$ " thick (1 piece)

10" long, $5\frac{1}{2}$ " wide, $\frac{1}{2}$ " thick (1 piece)

Doweling, $\frac{1}{4}$ " in diameter and $2\frac{1}{2}$ " long

The two 7" by 5" by $\frac{1}{2}$ " pieces of wood make the back and the front of the bird-house. Cut both of them to a point at one end, starting 2" from the end of the 7" side (*Picture 1*).



Cut a hole $1\frac{3}{8}$ " in diameter, 1" down from the point, in the front of the bird-house for a door. Use a coping-saw to do this.

Drill two small holes in the back of the bird-house, for air.

The $8\frac{1}{4}$ " by 6" by $\frac{1}{2}$ " piece of wood is the floor. Drill two small holes in this for drainage.

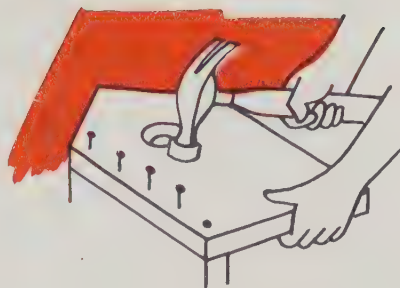


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The two 5" by 7" by $\frac{1}{2}$ " pieces are for the sides of the bird-house.

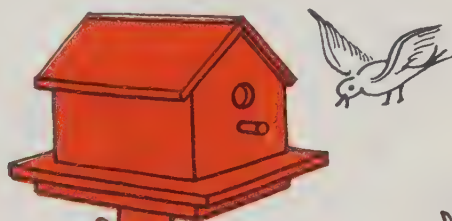
The 10" by 5" by $\frac{1}{2}$ " piece is one side of the roof, and the 10" by $5\frac{1}{2}$ " by $\frac{1}{2}$ " piece is the other side of the roof.

Smooth down all these pieces, including the door-hole, with sandpaper (*Picture 2*).



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Just below the door-hole, drill a hole a little more than $\frac{1}{4}$ " in diameter (*Picture 3*). This is for the small piece of doweling to fit into, to make a perch for the bird.



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Now start putting the parts together.

You will find it easier if you glue them together first, and drive in your nails before the glue is dry.

Glue and nail the sides to the front of the bird-house (*Picture 4*).

Glue and nail the sides to the floor.

One side of the roof is wider than the other. Glue and nail them together.

Plane the top edges of the sides so that they slope a little. Then glue and nail the roof to these sloping edges.

Smooth the ridge of the roof with a file.

Give the bird-house two coats of varnish. When the varnish is dry, nail the finished bird-house to a tree or on top of a post.

A PERISCOPE

YOU WILL NEED:

- A wooden box about 1 ft. high
- 2 small mirrors

(Your mother may have some mirrors in handbags she no longer uses. Ask her to let you have them.)

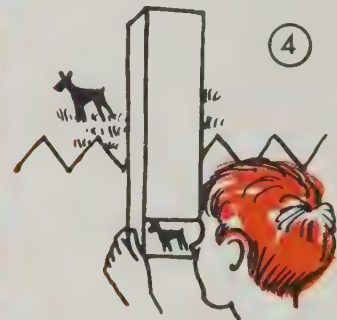
Use a wooden cheese box if you can get one from your grocery store. If not, make a box yourself. Cut two 1-ft. pieces of wood from a crate for the sides. Cut two 10" pieces of cardboard for the front and back. Cut two small pieces of cardboard to fit over the top and bottom.

Nail the sides and back together. A 2" space will be left uncovered at the top back (*Picture 1*).



Glue one of the mirrors at the bottom of the open front. Slope the mirror up toward the back at an angle of 45 degrees (*Picture 2*).

Turn the box back to front. Glue the second mirror at the top, facing the bottom mirror and sloping the same way (*Picture 3*).



Glue the front, top and bottom in place. A 2" space will be left uncovered at the bottom in front.

You will now be able to look into the bottom mirror and see what is reflected in the top mirror, without being seen yourself (*Picture 4*). And that is what a periscope is for.

TELEGRAPH SET

YOU WILL NEED:

- Wood—3" by 3" (2 pieces)
- Nails, 3—1½"
- 2 carpet tacks
- 15 ft. "push back" wire or bell wire
- Tin can
- Scissors
- Dry cell battery

TO MAKE THE SOUNDER: Drive nails 1" from edge, 2" apart so that exactly 1" is left (*Picture 1*).

Use one piece of "push back" or bell wire, and wind 25 to 50 turns on one nail; then a similar number of turns on the second nail. Leave ends (*Picture 2*).

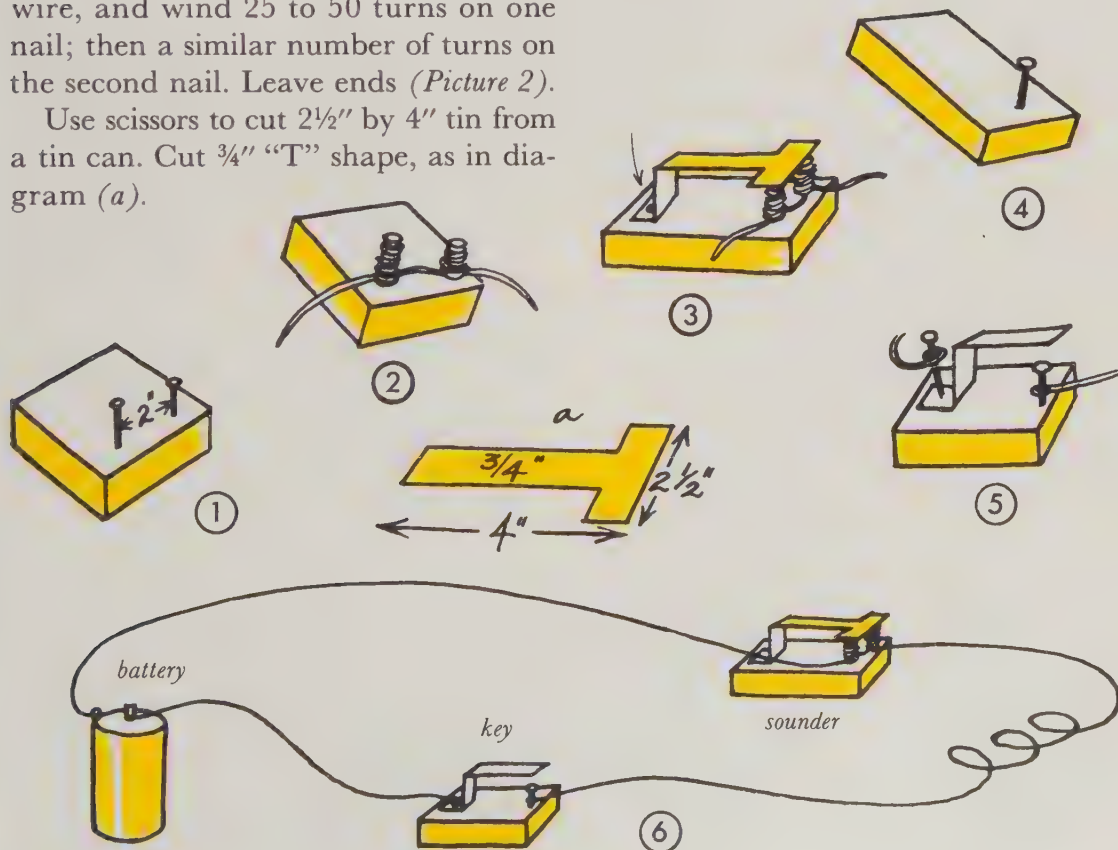
Use scissors to cut 2½" by 4" tin from a tin can. Cut ¾" "T" shape, as in diagram (*a*).

Bend "T" at angles (*Picture 3*). Fasten to wood with carpet tack (↙). "T" should be about ¼" from nail heads.

TO MAKE THE KEY: Drive a nail into 3" by 3" wood, about 1" from the edge (*Picture 4*).

Cut a ¾" by 4" piece of tin. Bend it (*Picture 5*). Loop end of 4" wire around tack, then drive the tack through the tin into the wood. Tie other wire lead to nail (*Picture 5*).

To operate sounder, connect as in *Picture 6*, and press key to make contact with nail.



BURGLAR ALARM

YOU WILL NEED:

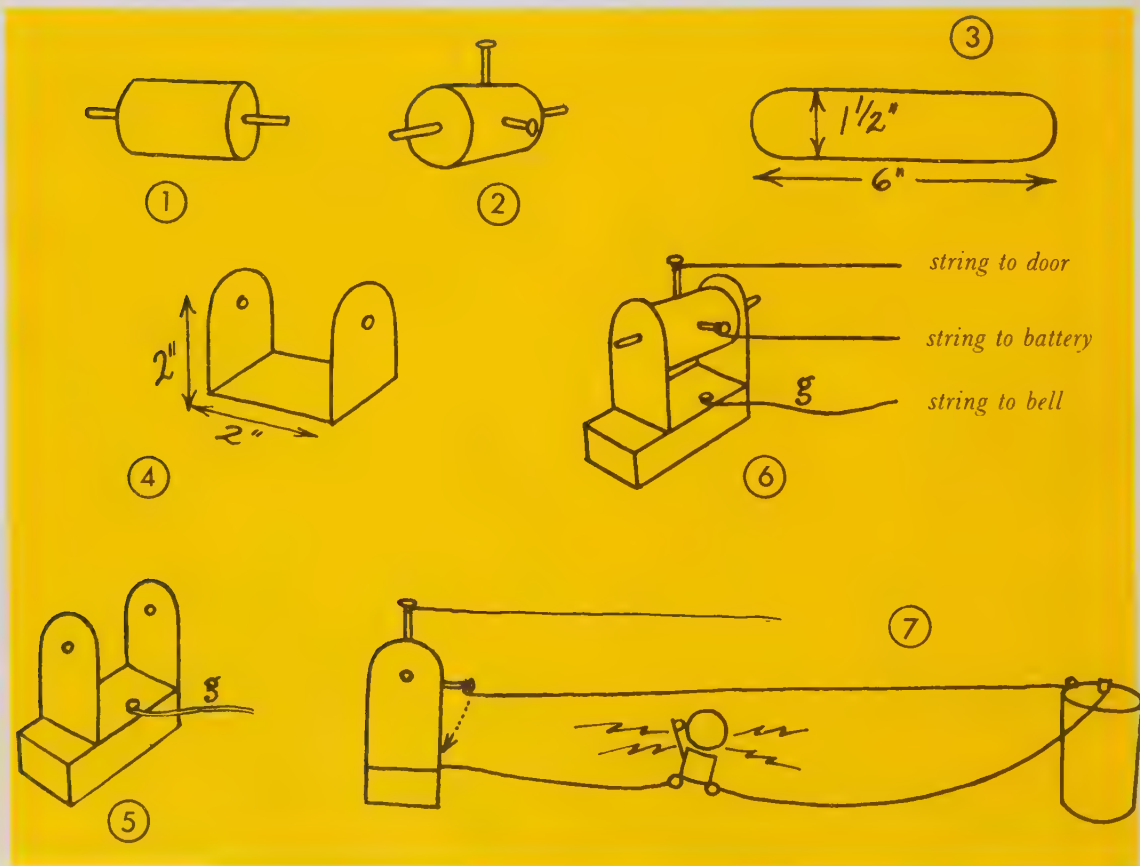
Piece of broomstick—2" long
 Wood—1½" by 3½"
 4 nails—1" long
 Buzzer or bell
 Dry cell battery
 Bell wire
 Pliers, tacks
 Tin can
 Hammer
 Scissors
 String

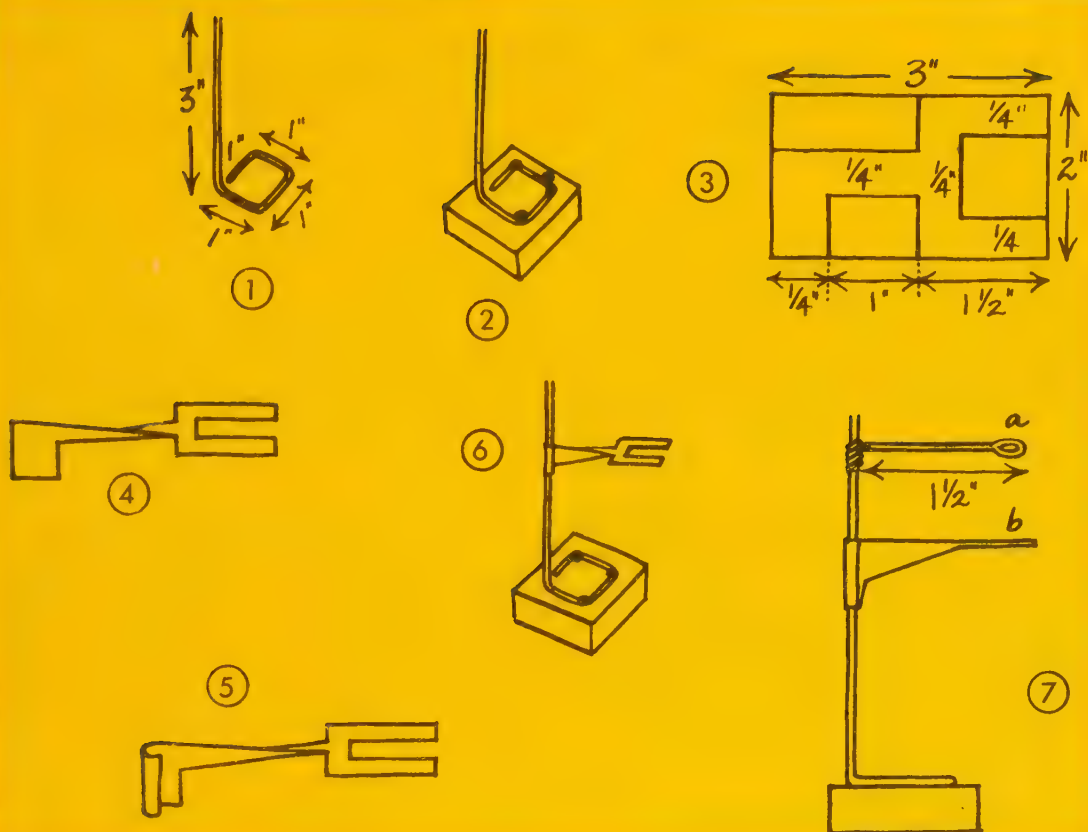
Cut 2" section from broomstick. Drive a nail into center of each end. Cut off heads of nails with pliers (*Picture 1*). Drive 1" nails into top and side (*Picture 2*).
 2).

Cut tin from can (*Picture 3*). Punch hole in each end, 1" from edge. Bend tin (*Picture 4*).

Nail tin to wood block (*Picture 5*). Loop end of wire (*g*) around tack and drive into tin.

Insert cylinder (*Picture 6*). Hook up (*Picture 7*). Pulling string causes nail on cylinder to make contact with wire (*g*), ringing bell.





SIMPLE MICROSCOPE

YOU WILL NEED:

Wire from coat hanger—9" long

Wood block—3" square

4" copper wire

Sheet tin—2" by 3"

Pliers

Scissors

3 carpet tacks

Cut wood block 3" square. Cut 9" length of wire from coat hanger.

Bend wire (*Picture 1*). Fasten to wood block with 3 carpet tacks (*Picture 2*)

Cut 2" by 3" piece from a tin can.

Mark measurements with pencil. Use scissors to cut out this forked shape (*Picture 3*).

Bend tin in right angle (*Picture 4*). Use pliers to roll end (*Picture 5*).

Slide tin piece over wire as shown. Use pliers and tighten rolled end (*Picture 6*).

Form $\frac{1}{8}$ " loop on one end of 4" copper wire (*a*). Wind other end of wire on the stand as shown. A drop of water in loop (*a*) acts as a lens for material placed on stage (*b*). Both lens and stage are adjusted by sliding up and down (*Picture 7*).



Sewing and Embroidery

Would you like to be able to sew dolls' clothes, and perhaps simple aprons and dresses for yourself or as gifts? You can easily learn. Go slowly at first, until you know how to make all the different stitches in these pages. There are other gifts you can learn to sew for your family and friends too—and it will give them so much pleasure to know you made them yourself.

Have all the needles, pins, thread, and scissors you need on the table beside you before you sit down to sew. Keep them in a work-box with a cover.

then roll your thumb and forefinger together. This will carry the thread to the end of your finger. Hold it firmly while you pull the thread with your other hand. This forms a small knot.



Work Stitches

THREADING A NEEDLE

Before you can do any sewing, you must thread the needle. It is easy, if you do it the right way. Unroll about 2 feet of thread, and cut it off. Pass *this end* through the eye of the needle. Holding the needle against a white surface, or against the light will help you to see the eye more clearly.

MAKING A KNOT

For some stitches, you will need a knot at the end of the thread. Hold the end of the thread you have just cut between thumb and forefinger. Wind the thread once around the tip of your forefinger,

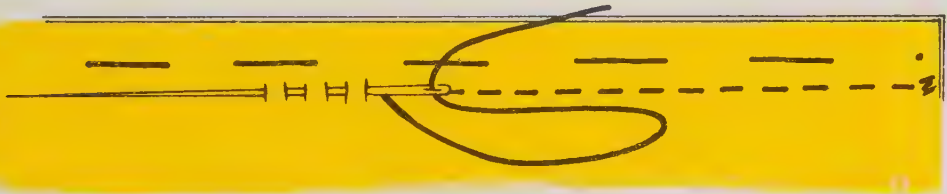
BASTING

Bastings are stitches used to hold pieces of material together while permanent stitching is being done. Afterwards, the basting thread is removed by clipping it every few inches and pulling out the pieces. Use cotton thread for basting. Make a knot in the thread, and pass the needle through the side of the cloth facing you. Make even stitches. The stitches and the spaces between them should be the same length, about $\frac{1}{2}$ ". This is known as *even basting*. End with three small stitches, one over the other.



RUNNING STITCH

Running stitches are short stitches of equal length. Run 3 or 4 stitches on the needle, then pull it through the fabric. These are permanent stitches. Begin and end with two or three small backstitches sewn one over the other.



BACKSTITCH

Start with three small stitches sewn one over the other. Bringing the needle through from the underside, make a short stitch back (to the right) on the upper side, and a longer one forward (to the left) on the underside. Insert the needle where the last stitch ends, and continue to make stitches as described. End with three small backstitches one over the other.



COMBINATION STITCH

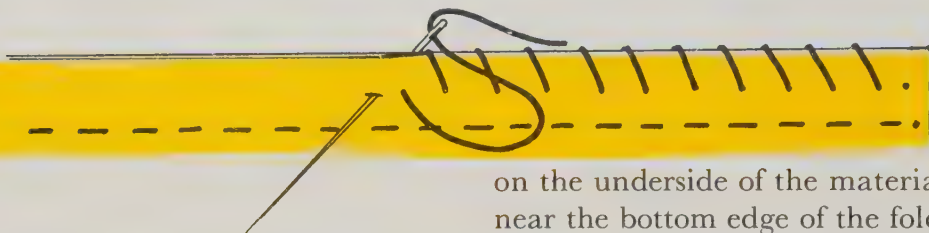
This is composed of a backstitch, followed by one, two or three running stitches. It is stronger than a running stitch, but not as strong as the backstitch. Begin and end like the backstitch.



OVERCASTING

This is used to keep raw edges of cloth from raveling and fraying. It is a slanting stitch. Start this stitch with a knot. When sewing, point the needle toward

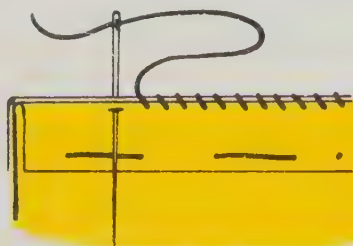
your left shoulder. Make the stitches $\frac{1}{4}$ " apart and over both edges. Stitches should be half the width of the seam.



OVERHANDING

Overhanding is used to join two finished or folded edges. The folded pieces must first be basted so that the edges to be sewed are exactly even. Put the pieces of cloth together wrong side out. Overhanding stitches are very fine, taking up only a few threads of each fold.

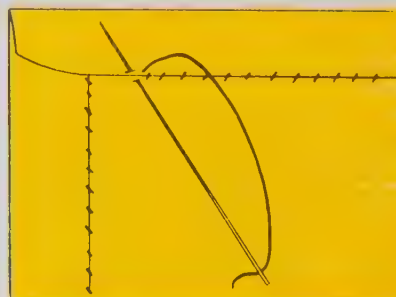
on the underside of the material. Baste near the bottom edge of the fold. Make your hem with small, slanting stitches. Catch just a few threads, then bring the needle up through the folded edge. Don't pull the thread too tight.



HEMMING

A hem is the folded edge of a piece of cloth that is sewed down. First the edge of the cloth is folded just a bit, and basted. Then it is folded again, so that the edge is hidden. All folding is done

A simple way to hem two edges that meet at a corner is to make a square-cornered hem. First hem one side, then fold the other side and hem it. This is mostly used for lightweight materials.



Decorative and Embroidery Stitches

Use mercerized embroidery thread. This may be bought in small skeins, in a variety of colors. The thread is made up of 6 strands, and can be separated to the thickness you want. Use a needle with a large eye such as an embroidery, or tapestry needle.

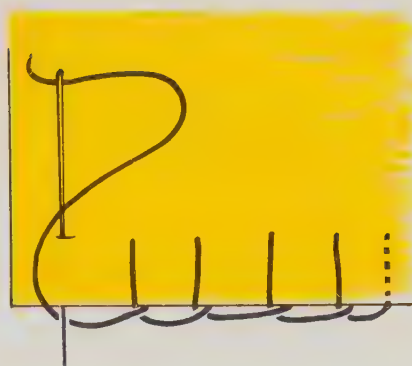
OUTLINE STITCH

This stitch may be used for outlining designs, or for filling in parts of a design. Push the needle through from the underside, allowing about two inches of thread to hang down the back of the cloth. Next, make a slanting backstitch about $\frac{1}{4}$ " long. Make another slanting backstitch *in front* of the first one, and slightly overlapping it. Continue to make a stitch in front of the last one you have made, until the entire design is outlined. When used as a filling stitch, rows of outline stitches are made next to each other.



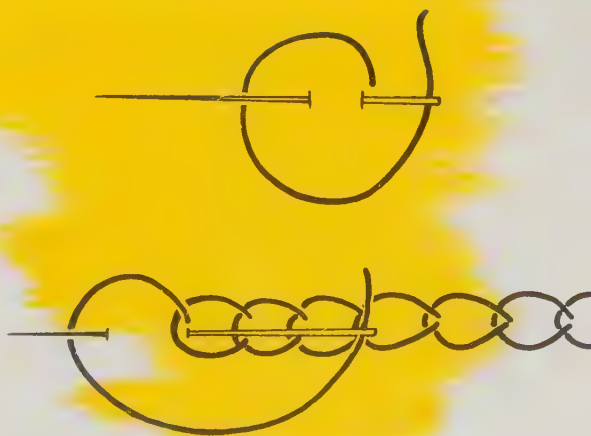
BLANKET STITCH

Start with a few tiny running stitches ending at the edge of the cloth. Insert the needle from $\frac{1}{8}$ " to $\frac{1}{2}$ " away from the edge; bring the thread *under* the needle, then pull it through. End as you began, with running stitches. Use the blanket stitch along an edge.



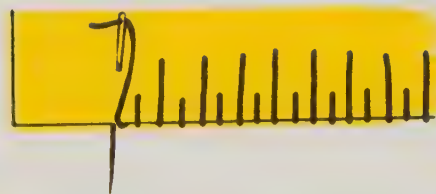
CHAIN STITCH

Bring the needle through the underside; leave about two inches of thread hanging underneath. Make a stitch, inserting the needle right next to the point where it came up from the underside. Bring the thread under the point of the needle; this forms a loop. Make the next stitch in the same way: Insert the needle below the place where the thread came up, make a stitch, and pass the thread under the needle to form a loop. End the stitch with two *small* backstitches on the under side.



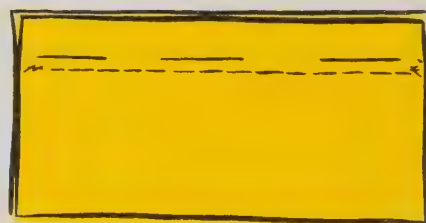
LONG-AND-SHORT STITCH

These are simply alternate long and short stitches, worked close together. You may use this stitch for outlining, or for filling in designs.



Seams

A seam is formed whenever two edges of cloth are joined together. The strongest seams are sewed by machine; when sewing by hand, use a backstitch or a combination stitch. Begin and end the seam by making three small backstitches on top of each other.



PLAIN SEAM

This is the simplest seam to make. Place the pieces of cloth to be seamed with their right sides together, so that the edges are even. Baste them together along the line where the seam is to be. Stitch the seam, then remove the basting thread.

Heat up an iron and press the seam

FRENCH KNOT

This forms a dot. Start with a knot at the end of the thread, pulling the needle through from the underside. Then, holding the thread as close to the fabric as you can, twist the needle around it. Insert the needle right next to the place where it came through from the underside, and pull the knot down snug. Three twists will make a small knot, five will form a larger one. End with two or three *small* backstitches on the underside.



CROSS STITCH

First make a row of even overcast stitches, all slanted the same way. Next, turn the cloth upside down and go back along the row, making stitches to complete the cross. Cross stitches should be even, giving the effect of little squares.

open, so that it lies flat. It is less bulky this way.

You can prevent the edges of the seam from raveling by overcasting, notching, pinking, or binding.



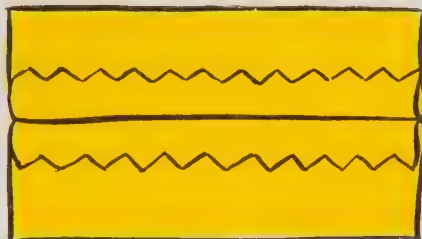
OVERCAST SEAM

Make a plain seam. After it has been pressed open, make a line of overcast stitches along each edge. Make the stitches about $\frac{1}{4}$ " apart, and don't pull them tight.



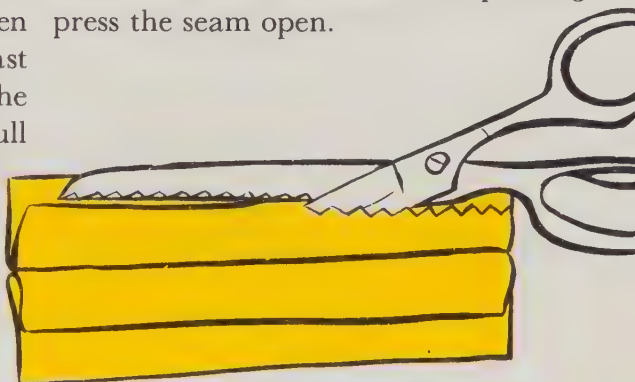
NOTCHED SEAM

Make a plain seam, then, using the tips of a pair of sharp scissors or shears, cut small notches along each seam edge. This will prevent the cloth from raveling. The last step is to press the seam open.



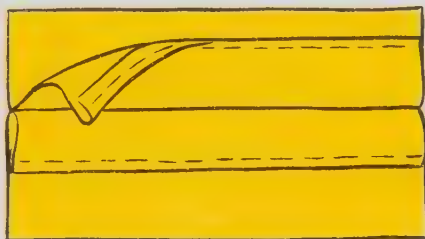
PINKED SEAM

Your seam edge can be notched more evenly and quickly if you use pinking shears. These are special shears which cut small, even notches. After pinking, press the seam open.



STITCHED SEAM

Make a plain seam, and press it open. Turn the edges of the seam under, not more than $\frac{1}{4}$ ". Sew close to the edge with a small running stitch.



BOUND SEAM

You may use ribbon, or seam binding tape, which can be bought in many colors. Cut two pieces of binding tape the same length as the seam. Press the tape with a warm iron, making a crease down the center. Place the folded binding tape over the edge of the seam, and sew it in place with a running stitch. Seams may also be bound with bias tape that you can get in the Notions Department of any Department Store.



Ready-bought bias tape comes in 4-yard lengths. It can also be used as trim for pockets, appliqué patches, aprons, pot-holders, and other curved edges.

Bias tape makes a strong, durable edge binding. Hold the tape against the right side of your work, so that both edges are even. Use a running stitch, and sew the tape in place along the crease.

Bring the tape over to the other side of the edge, and stitch it down with a hem stitch. Use very fine stitches.

Twill tape and ribbon are used in the same manner. Place the tape against



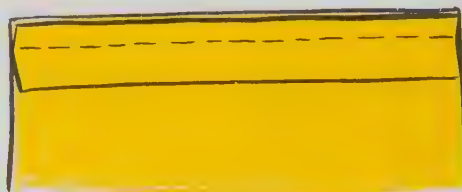
Binding

Never leave a raw edge on a finished piece of work, for it may unravel. Edges may be bound with ribbon, twill tape, or bias tape. Ribbon and twill tape may be used to bind straight edges; bias tape is used for binding curved edges.



the right side of the goods. Sew the tape to the goods, about $\frac{1}{4}$ " away from the edge.

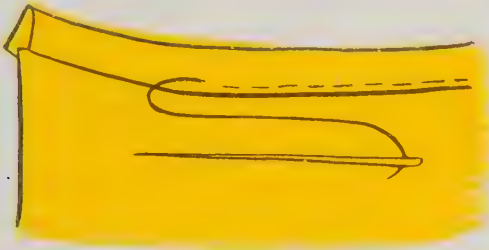
Turn the tape over to the other side of the cloth, and sew the edge down with a small, neat, hem stitch.



You can also bind edges with tape and ribbon by first pressing a crease down the center, then sewing it with a run-



ning stitch, a combination stitch, or a backstitch, catching both sides of the tape.



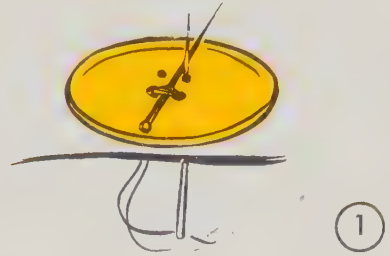
Buttons and Fasteners

BUTTONS

First make certain that you are sewing the button in the right place. Close the edge of the garment, so that the buttonhole is directly over the place where the button is to be sewed. Use a double thickness of thread, with a knot at the end. Push the needle through the buttonhole, and through the cloth underneath, placing the knot where the center of the button will be. Open the edge of the garment, and you are ready to sew.

Place the button directly over the knot, and bring the needle up through

the cloth, and through one of the holes. Push the needle down through the hole next to it and slip a pin under the loop of thread that is formed to lengthen the stitches (*Picture 1*).



Continue, making five or six stitches over the pin; do the same with the other two holes in the button.

Remove the pin, pull the button away from the cloth, and wind the thread tightly several times around the threads between the button and the cloth to form a stem. Finish with a couple of



backstitches underneath (*Picture 2*).

You can also crisscross the buttonhole threads (*Picture 3*).



SNAPS

Snap are used to close overlapping edges of cloth. Each snap consists of two halves; one half has a little bulb, which is pressed into a hole in the other half. The half with the bulb is sewed to the upper edge of cloth; the half with the hole is sewed to the under edge.

Pass a pin through both layers of cloth, about $\frac{1}{4}$ " from the edge. This marks the place where the snaps will be sewed. Use simple overcast stitches.

hook to the upper edge, and the eye to the lower edge. Use tight overcast or overhand stitches.



HOOKS AND EYES

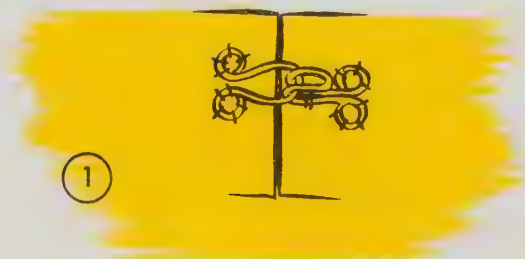
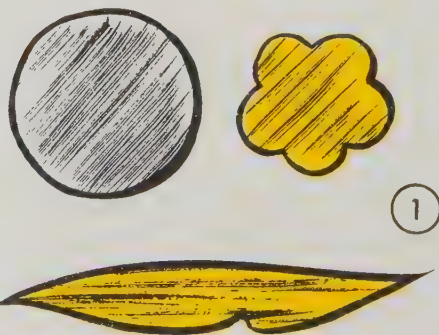
Round eyes are used when fastening two edges that just come together (*Picture 1*).

Straight eyes are used when one edge overlaps the other (*Picture 2*). Sew the

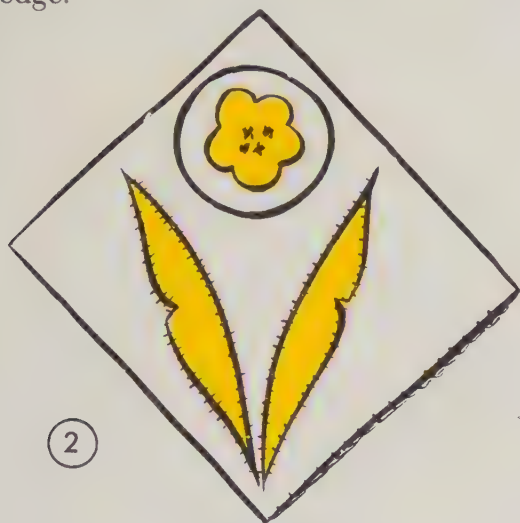
What to Make

PINCUSHION

Cut two pieces of felt, 4" square. Then, cut the leaf and flower shapes out of colored felt or other material (*Picture 1*). These are sewed to only one piece of felt, not to both. Sew the leaves in place, using an overcast stitch on the edges. Sew the two flower pieces by making three or four French knots in the center; do not sew around the edge. Place the two felt squares together, then sew

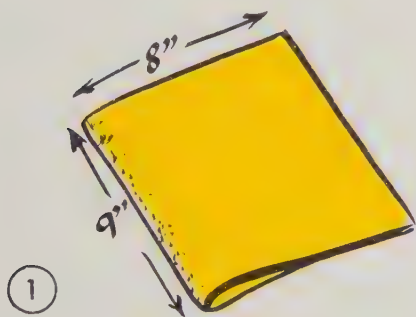


around the edge with a blanket stitch (*Picture 2*). Leave a small space open, and stuff the pincushion with rags or absorbent cotton. Push the stuffing in with a pencil. Finish sewing around the edge.

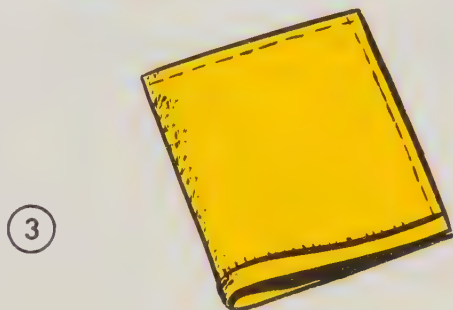
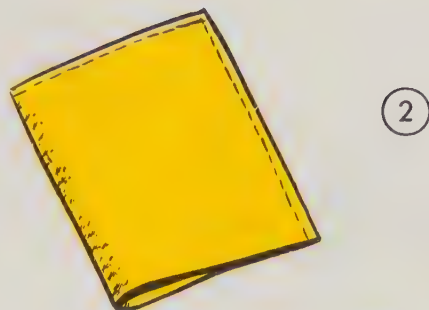


BATH MITTS

Use either new toweling material, or good parts of an old towel. Cut a piece 9" long, and 16" wide. Fold it so that



it is 8" wide and 9" long (*Picture 1*). Sew a plain seam along the top and side. Turn up the bottom edge and hem it (*Pictures 2 and 3*).



Turn it inside out, so that the seam is on the inside (*Picture 4*). You now have a flat mitt, which can be slipped over your hand used as a washcloth. Make a pair of these bath mitts.

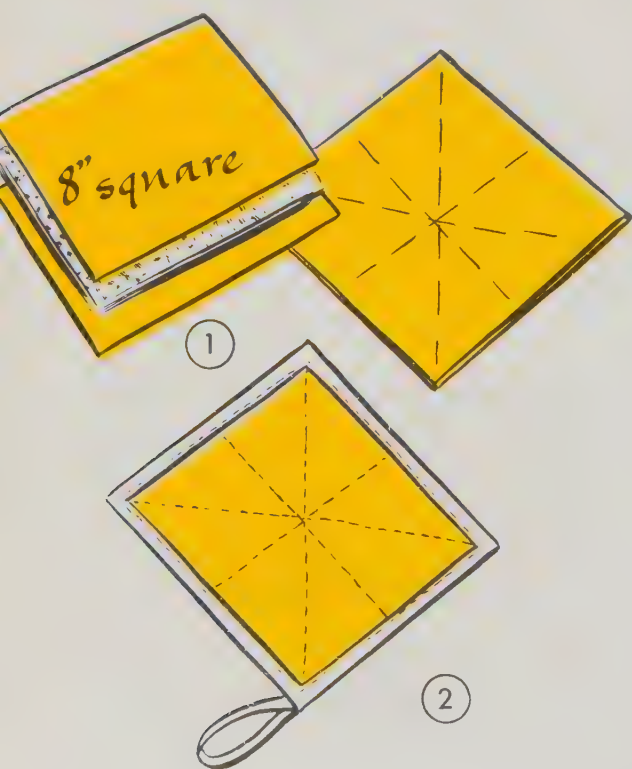


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POT-LIFTER

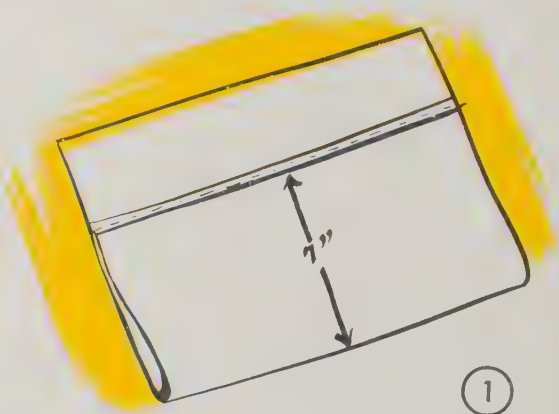
Cut two pieces of cloth 8" square. These will be the top and bottom of the pot-lifter. Cut a piece of cotton batting 8" square; this is the padding. You may also use two thicknesses of toweling, cut from the good portion of an old towel (*Picture 1*).

Place the padding between the two pieces of cloth, and baste everything together. Quilt the pieces together. This is done by sewing together all thicknesses of material with a running stitch. Then, bind the edges with bias tape. Use a backstitch or a combination stitch. Sew a 4" loop of twill tape into a corner; this makes a hanger (*Picture 2*).

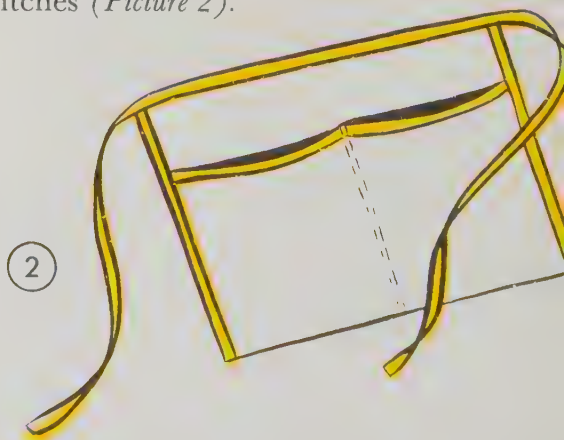


CLOTHESPIN APRON

Use an 18" square of stout material, such as denim, light duck, or heavy cotton. Bind the bottom edge with twill tape. Fold the bottom up, making a pocket 7" high. Baste the piece you have just folded up (*Picture 1*).

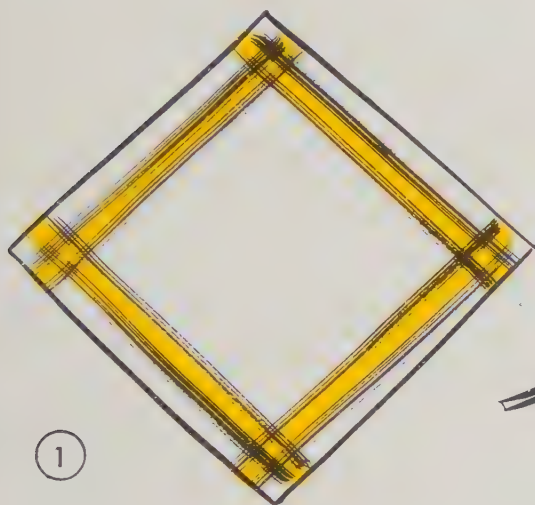


Bind the two sides with tape, making a few stitches at the ends of the tape. Cut a piece of tape 4 feet long, and bind the top edge with it. The pieces that project on each side are used for tying the apron around your waist. Finish the apron by sewing a double row of backstitches down the center of the pocket. The two rows of stitches should be close together. Remove basting stitches (*Picture 2*).



SQUARE APRON

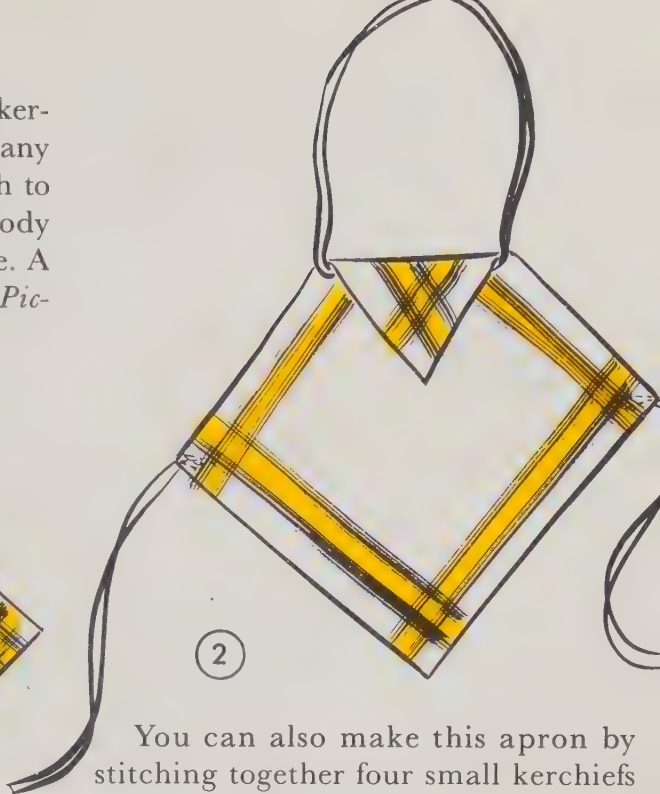
This may be made from a large kerchief, a bandanna handkerchief, or any square of cloth that is large enough to fit you. Hold it up against your body when trying a piece of cloth for size. A 25" square will fit most people (*Picture 1*).



Cut a piece of twill tape 36" long; this is the neck tape. Cut two other pieces 18" long; these are the waist tapes. Sew the neck tape across the corner of the cloth square, using two rows of backstitches. Sew the waist tapes in place by stitching one inch of each end to a corner of the cloth (*Picture 2*).

The top corner of the square is folded down and stitched in place.

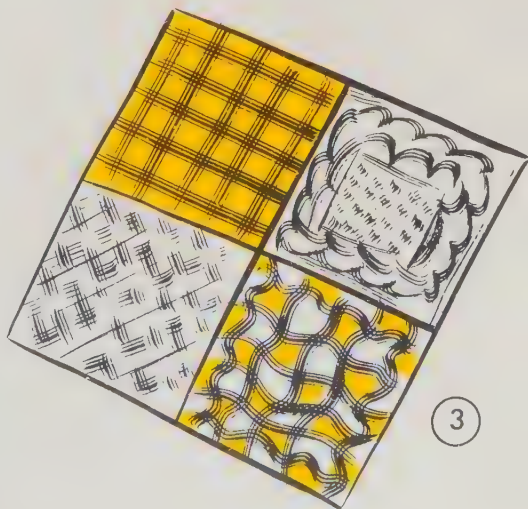
If you are using a piece of cloth instead of a kerchief, you may hem the edges, or bind them with tape, so that they do not ravel.



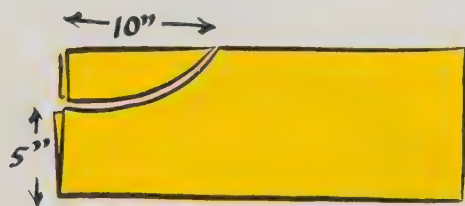
You can also make this apron by stitching together four small kerchiefs to make a large square (*Picture 3*). Use the overhand stitch.

BASIC APRON SHAPE

You'll need a piece of material 18" wide and 30" long. Make a paper pattern by first cutting a piece of wrapping



paper the same size. Fold it in half the long way, and draw a curved pencil line (*Picture 1*). Cut this curved corner piece away, and unfold the paper pattern.

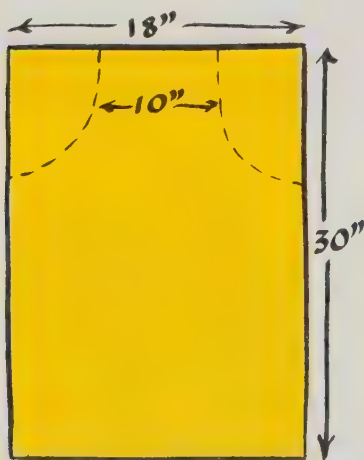


①

Hold it up against your body to see whether it fits. You may wish to make it shorter or narrower (*Picture 2*).

Pin the paper to your cloth, then cut along the edge.

You have just cut a basic apron shape, from which you can make either a barbecue apron, or a carpenter's apron.



②

BARBECUE APRON

Use plain cloth, so that it can be decorated when the apron is finished. First, cut the basic apron shape. Bind the edges with bias tape. Use a 24" piece of twill tape for the neck tape, and two 18" pieces for the waist tapes.

You can draw designs directly upon the apron, using brightly-colored wax crayons. After you have finished the drawings, you can set the colors into the cloth very easily. Place the apron face down upon a piece of clean cloth or paper. Cover it with a damp cloth, and press it with a hot iron.

If you are not quite certain you can draw directly upon the apron without making mistakes, you can make your drawing on a piece of paper. Then, place the paper face down upon the apron and press it with a hot iron. This will transfer the design to the cloth. Don't transfer lettering in this manner, for it will be reversed.



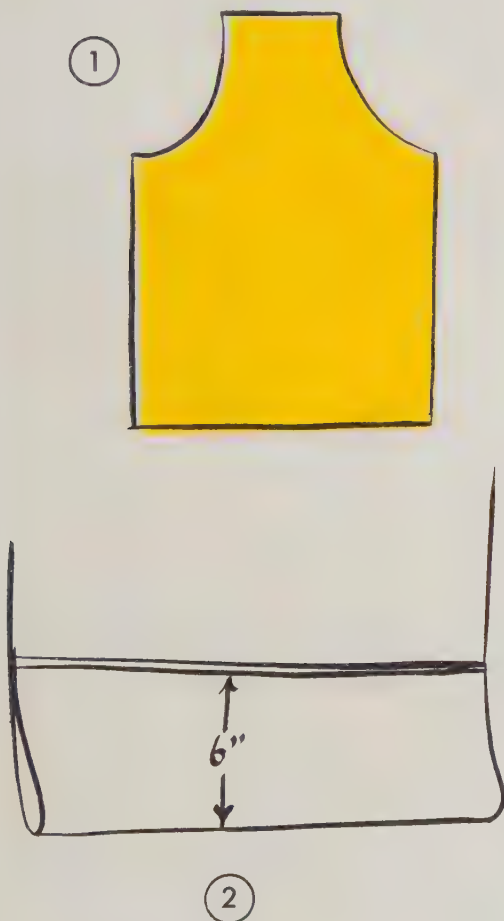
CARPENTER'S APRON

Like the clothespin apron, this should be made of strong material. Use denim, light duck or canvas, or heavy cotton goods. Cut the basic apron shape (*Picture 1*). Bind the bottom edge only, using bias tape. Fold the bottom edge up over the *front* of the apron, making a pocket 6" high (*Picture 2*).

Use bias tape to bind the edges. Begin with one of the bottom corners, then

go up the side, across the top, and down the other side. Do not bind the bottom. Use twill tape to make the neck and waist tapes. Make a double row of running or backstitches, dividing the long pocket into three 6" sections. You now have three handy pockets for nails and small tools.

Make a pencil pocket out of scrap cloth. Cut a piece 6" long and 3" wide. Fold one end down, and hem it on the wrong side, this is the top of the pocket. Fold the other three edges over about $\frac{1}{4}$ " on the underside, and baste the pocket to the apron. Sew it firmly in place with a backstitch or a combination stitch (*Picture 3*).



STUFFED TOY

The best material to use is felt. Make a paper pattern by drawing the outline of the rabbit's body upon a piece of wrapping paper, then cutting it out. Pin the pattern to the felt, and cut around the edge accurately. Cut two pieces, exactly alike.

Decoration is applied before the two pieces are sewed together. Sew an eye to each piece with an overcast stitch, using colored embroidery thread. Use an outline stitch for the rabbit's leg. Remember to sew the decorations so

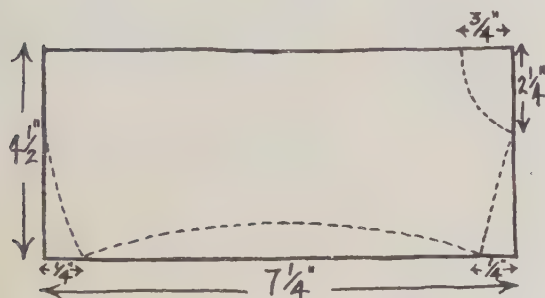
that they will be seen when the two pieces are sewed together.

Sew the two pieces together, going around the edges with a blanket stitch. Make the stitches fairly tight. Place the ears between the two body pieces, and sew them into place before you go around the edge. Do not sew all around, but leave about an inch open. Stuff the rabbit with rags or absorbent cotton until it is quite full; use a pencil to poke the stuffing in. Then finish sewing around the edge.

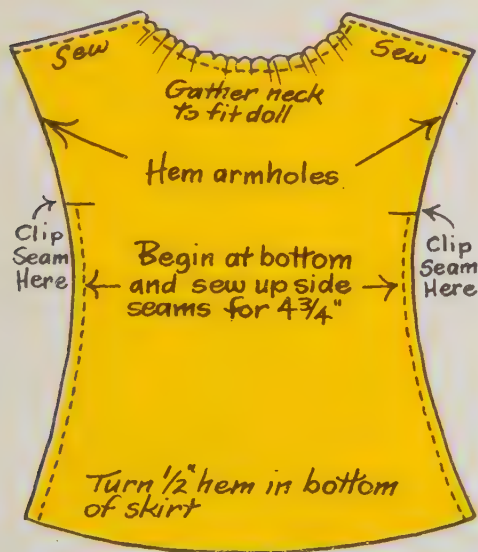


Dolls' Clothes

Here are some dolls' clothes you can make. These were designed to fit a 12" doll. If you want to make these designs for a larger or smaller doll, change the measurements according to your doll's size. These designs are all easy to make. Follow directions carefully. Do not try to hurry and your doll clothes will be successful.



1



2



KIMONO DRESS

Kimono style means that the sleeves are cut in one piece with the dress. This is the easiest way to make dolls' clothes.

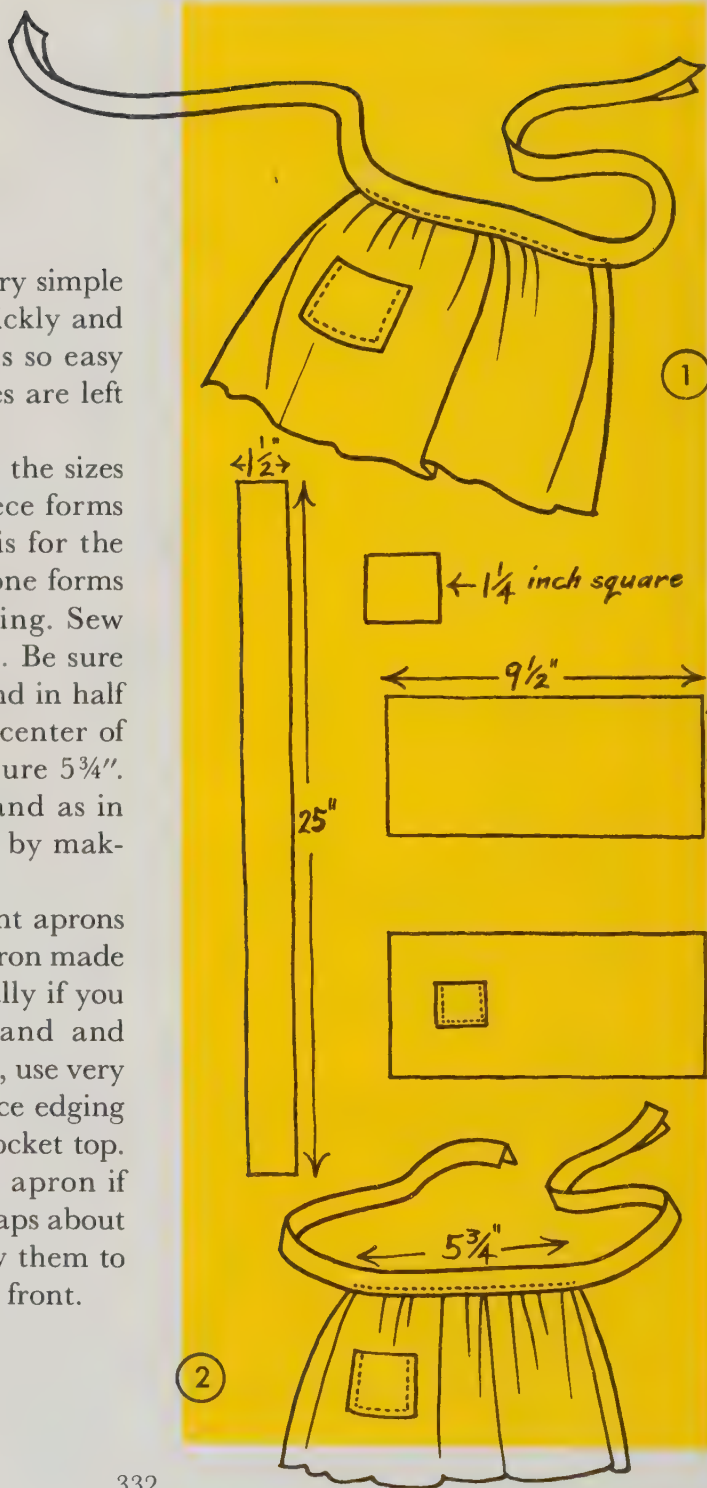
Start with a piece of paper which measures 9" by 7 1/4". Fold in half to measure 4 1/2" by 7 1/4". Mark off as in *Picture 1*. Cut on dotted lines. This is your pattern. Fold your fabric double and be sure it is well pressed before you cut. Pin your pattern to your double fabric and cut around the pattern. You will have two pieces. One is the back, the other the front. Sew them together as in *Picture 2*. Hem armholes and bottom. Cut 3" slash in center back for a placket. Gather neck to fit doll. Sew small snap at top of placket, and tie a narrow ribbon around the waist.

APRON

These directions are for a very simple apron which can be made quickly and easily. One of the reasons it is so easy to make is that all of the edges are left unhemmed.

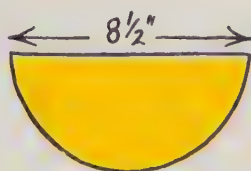
Cut three pieces of material the sizes shown on the charts. One piece forms the apron, the small square is for the pocket, and the long narrow one forms the waistband and apron string. Sew pocket to apron as in *Picture 1*. Be sure to leave top free. Fold long band in half to measure $\frac{3}{4}$ " wide. Gather center of apron at top, making it measure $5\frac{3}{4}$ ". Slip it between the folded band as in *Picture 2*. Hold firmly in place by making two rows of fine stitches.

You can make many different aprons by using this pattern. A lace apron made this way is very pretty, especially if you use a ribbon for the waistband and strings. For another nice apron, use very thin material and whip fine lace edging to the three sides and to the pocket top. Your doll can have a nurse's apron if you will make two shoulder straps about $\frac{1}{2}$ " wide and 10" long and sew them to the center of the waistband in front.



CIRCLE HAT

This is a very jolly hat. Make it from thin felt, a straw circle, or piqué. After you have made one for your doll, try one for yourself. Of course you will have to start with a larger circle. For your doll, use an $8\frac{1}{2}$ " circle. Fold in half as in *Picture 1*. Now fold as indicated by dotted lines in *Picture 2*. Gather one thickness of the material between folded edges (*Picture 3*). Tie with yarn or ribbon bow. Open hat. Trim with feather or flower (*Picture 4*).



1

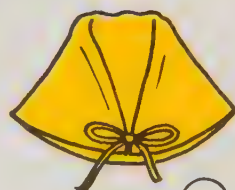


2



3

Folded Hat

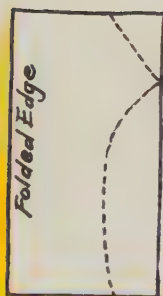


4

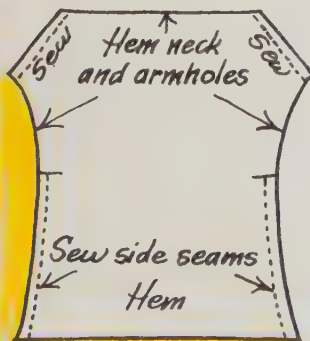


MEXICAN BLOUSE

When on your doll, this blouse gathers softly around the neck and is very pretty. To make the pattern, start with a paper which measures $9\frac{1}{2}$ " by 7". Fold in half to measure $4\frac{3}{4}$ " by 7". Mark out as indicated in *Picture 5*. Cut out on pencil marks. Pin this pattern to a double thickness of the fabric and cut carefully. Sew pieces together as indicated in *Picture 6*. Gather around the neck with big stitches of colored yarn (*Picture 7*).



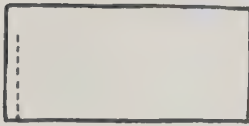
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6



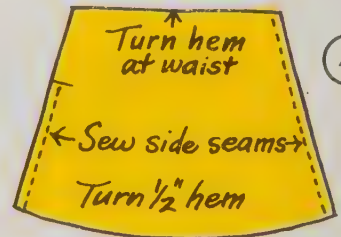
Cut a piece of cloth $5\frac{1}{2}$ " by 20". Seam ends together for $3\frac{1}{2}$ ", leaving a 2" placket (*Picture 1*). Press seam open. Put a $\frac{1}{2}$ " hem in the bottom of skirt. Make a band 2" wide and long enough to fit around your doll's waist. Fold this band in half to measure 1" wide. Gather skirt to size of band and sew them together as shown. (*Picture 2*).



1



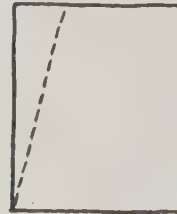
2



4

JUMPER SKIRT

Fold in half a paper which measures 8" by $4\frac{1}{2}$ " to measure 4" by $4\frac{1}{2}$ ". Mark out as shown in *Picture 3*. Open pattern and pin to a double piece of fabric. Sew as shown in *Picture 4*, leaving $1\frac{3}{4}$ " open on one seam for a placket. Turn front side of placket in, leave back part as an extension. Press seams open. Hem top and bottom of skirt. Sew a snap on the placket. Cut two straps 6" long by 1" wide. Turn in $\frac{1}{4}$ " on both sides and stitch down. Attach these straps to skirt, using small buttons to hold them in place (*Picture 5*).



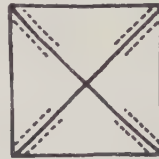
3



5

POINTED BAG

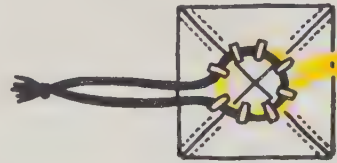
This bag can be made for yourself or for your dolls. Start with a 12" square of felt or other fabric that does not need hemming. Fold your square and stitch each seam together for 3½" from the point as in *Picture 1*. Sew a ring or make a thread loop at each point marked with a colored dot in *Picture 2*. Run one cord through these rings from right to left and the other from left to right (*Picture 3*).



1

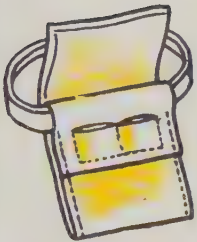
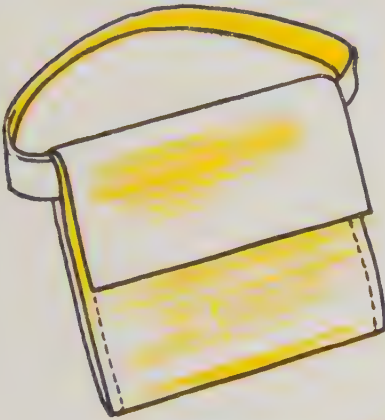


2



3

FLAT BAG



6



5



4

One of the nicest features of this bag is the double coin pocket. This is easy to make and very convenient for carrying carfare, as you do not have to open more than the flap of the bag to get to your coins. Start with a piece of felt 13" long by 4½" wide. Fold down a 2" flap and stitch as indicated in *Picture 4*. Cut slit as shown by colored line, going through one thickness only. This forms the coin pockets. Now fold and stitch as in *Picture 5*. Make a handle of felt and attach at sides as in *Picture 6*.

DRAWSTRING BAG



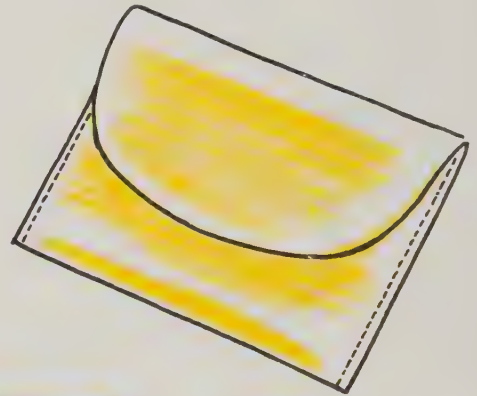
1

2



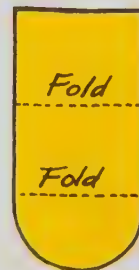
3

Cut your fabric 11" by 7". Fold and stitch as in *Picture 1*. Turn in 1 3/4" and run two rows of stitching to hold this fold down (*Picture 2*). This forms a casing. Now make two small holes in this casing at either side of bag as in *Picture 3*. To make the bag open and close easily, you should run two 14" drawstrings through the casing. Put the first string in one of the holes. Run it all the way around the bag and bring it out of the same hole. Do the same with the second string, using the other hole.

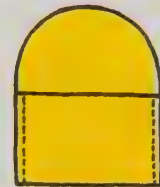


CHANGE PURSE

This bag is made of chamois skin which can be bought at the household counter in the dime stores. You can also use the top of an old leather glove if it is clean and large enough to cover your pattern. Start with a paper which measures 9" by 4". Round one end as shown in *Picture 4*. Hold this pattern on your leather and cut carefully around it. Fold and stitch as shown in *Picture 5*. Fasten with a snap sewed to the flap or attach a ribbon to the back and tie as shown in *Picture 6*.



4



5



6

Knitting, Crocheting and Weaving

Learn to Knit

MANY GIRLS and boys would like to knit but have never tried because they thought it would be hard to do. It really isn't, and you'll be surprised how quickly you'll be making useful and attractive things.

First get yourself a knitting basket or box to keep all your knitting materials together. (See page 78 for how to make a knitting box.) For practice a pair of No. 3 knitting needles will be fine. As you go in for making special things, the directions will tell you what size knitting needles you'll need. Ask Mother for a ball of yarn, and you're ready to begin. The pictures will help you.

KNITTING STITCHES

HOW TO CAST ON—First you need to put the stitches on the needle. This is called casting on. Measure 8" from the end of the yarn and make a slip knot here. Slip in the needle and tighten yarn (Pictures 1, 2, and 3).

Hold the needle like a pencil in your right hand. Loop yarn around left thumb, grasping it with last three fingers. Move needle down through loop, and

(" means inches)

slip thumb out. Tighten stitch by pulling yarn gently. Make nine more stitches, keeping them loose (Pictures 4 to 8).

HOW TO KNIT—Now you're ready to knit. Change needle with cast on stitches to left hand. With right hand, hold the other needle. With yarn in back of work, insert needle in the front of first stitch, pointing needle toward the back. Put yarn around right needle, pull through stitch, and slip this first stitch off the left needle onto right. Now you have made one stitch (Pictures 9 to 13).

Continue until all the stitches are on the right needle. Put empty needle in

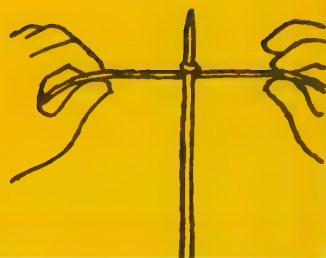




Mark off 8 inches 1



Make slip knot 2



Tighten yarn 3



Hold like pencil 4



Loop yarn around thumb 5



Slip needle under loop 6



Tighten yarn 7



Make 9 more stitches 8



Stitches in left hand 9



Insert needle in stitch 10



Slip yarn around needle 11



Pull stitch through 12

right hand and needle with stitches in left hand. Place the yarn behind the left needle and you are ready to start the second row of knitting. Continue knitting for several rows and you will have a sample of the garter stitch (*Picture 14*). **HOW TO PURL**—Hold yarn in front of work and insert the needle in front of

the first stitch, pointing needle toward the front. The needles now look like a large X. Bring the yarn over the top of the right needle and down between the needles. Pull through stitch and let this stitch come off onto the right needle. You have just purled one stitch. Remember, yarn is *behind* the left needle for the



Stitch on right needle 13



Rows of garter stitch 14



Yarn over needle 15



Rows of stockinette stitch 16



Rows of ribbing 17



Knit two in one stitch 18



Knit two together 19



Slip over first stitch 20

knit stitch and is *in front* for the purl stitch (*Picture 15*).

HOW TO KNIT STOCKINETTE STITCH—

This is the stitch which is used for making most sweaters. Simply alternate one row of knit and one row of purl. When you knit, the *right side* of the work is facing you; when you purl, the *wrong side* is facing you (*Picture 16*).

HOW TO MAKE RIBBING—Ribbing is the stitch which is used on the bottom of sweaters and cuffs of socks. Hold yarn in back of work and knit two stitches. Bring yarn in front of work and purl two stitches. Repeat across the row (*Picture 17*).

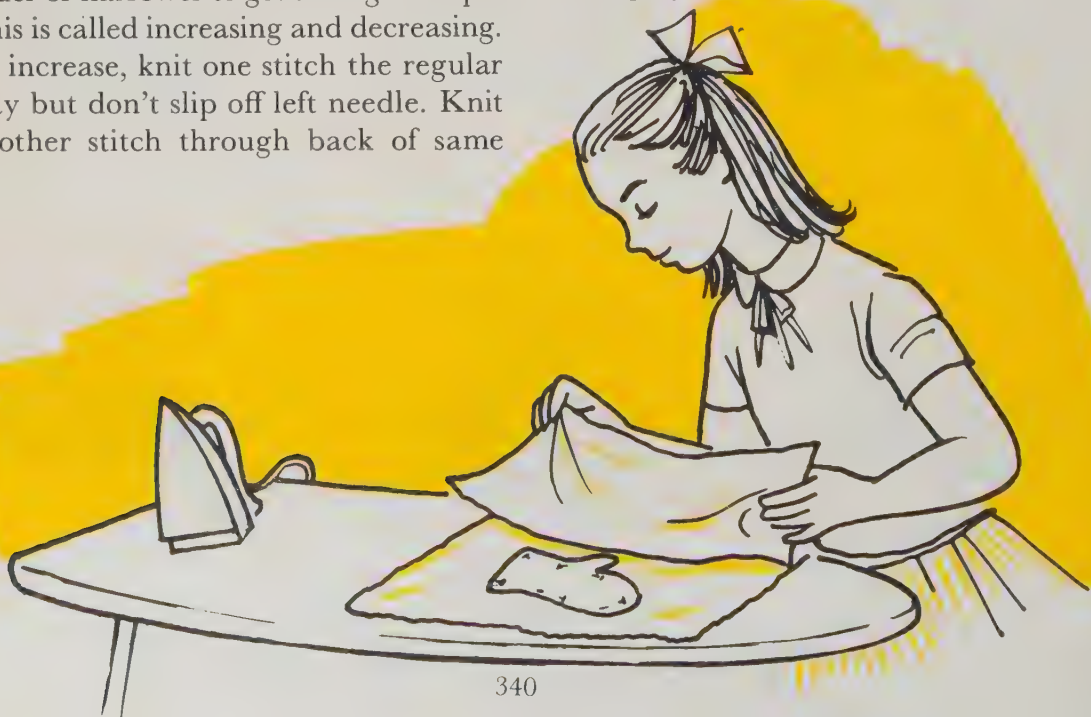
HOW TO INCREASE AND DECREASE—

For certain articles like mittens and sweaters you will have to make knitting wider or narrower to get the right shape. This is called increasing and decreasing. To increase, knit one stitch the regular way but don't slip off left needle. Knit another stitch through back of same

stitch and then slip off left needle onto right needle. To decrease, insert right needle through two stitches and knit off as one stitch (*Pictures 18 and 19*).

HOW TO BIND OFF—When you complete your work, you will have to take it off the needle. This is called binding off. Knit two stitches. Bring first stitch over second stitch. Knit another stitch and again bring first stitch over second stitch. Be sure to bind off loosely. At the end of the row, cut the yarn, draw it through the last stitch, and pull it tightly (*Picture 20*).

HOW TO BLOCK—After you've finished knitting your article, you'll want to block it to give it a neat, finished look. Pin each knitted section on a smooth towel and place on ironing board. Cover with a damp pressing cloth and press with hot iron. Let your work dry thoroughly.



Three Things to Knit for Fun

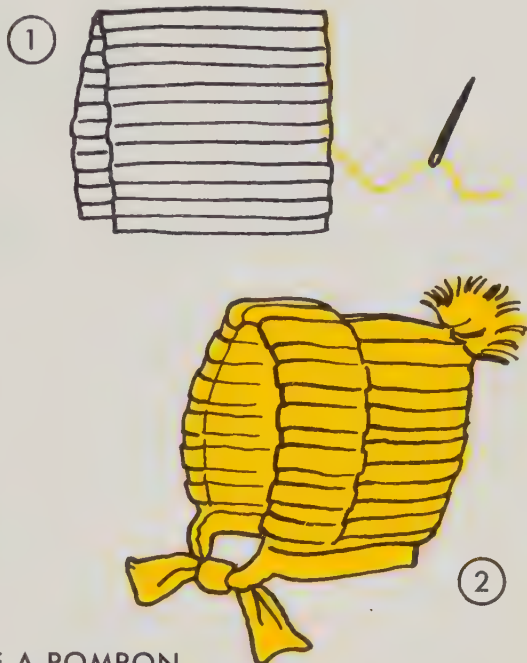
(For hints on sewing stitches see page 316)

BABY CAP—You will need one ball of baby yarn and one pair of size No. 3 knitting needles to make this little baby's cap.

Cast on 64 stitches. Work in the ribbing stitch (knit 2, purl 2) until your work measures 5½" long. Bind off. Fold work in half crosswise and form the center back seam by sewing together one side (*Picture 1*). Turn inside out.

For the neckband and tie string, cast on 7 stitches. Knit in garter stitch (knit every row) until piece measures 16" long. Bind off. Fold in half crosswise and sew to lower edge of cap with the fold at the center back seam.

Turn back the front of the cap to form a flap and tack it in place (*Picture 2*). Make a pompon, following the directions given below, and sew it to point at back of cap (*Pictures 3, 4 and 5*).



HOW TO MAKE A POMPON



Wind yarn around cardboard

3

Remove cardboard and tie at center

4

Cut ends and bunch up

5

BELT—This smart, two-toned belt will fit a girl with a 24" waist. To make it, you will need $\frac{1}{2}$ ounce each of red and yellow sport yarn (or any other two colors you like) and a pair of No. 2 knitting needles. With red, cast on 160 stitches (for larger sizes add 6 stitches for each inch). Knit 12 rows in garter stitch (knit every row). Break off red yarn. Attach yellow yarn and knit 12 more rows in garter stitch. Bind off.

Now get two buttons about the size of a dime. Turn under one end of belt and sew on buttons—yellow on top, red on bottom. With a large-eyed needle and matching yarn, make two loops on the other end the size of the buttons. Work buttonhole stitch over the loops to make them stronger (*Picture 6*).



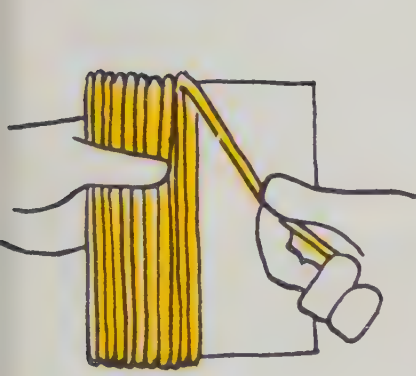
SCARF—Use one 2-ounce skein each of dark blue and white sport yarn and No. 4 knitting needles. Cast on 60 stitches in blue. Then work in garter stitch (knit every row) until piece measures 8 inches.

For the next row, work 30 stitches in blue. Then attach white yarn and finish knitting the row in white.

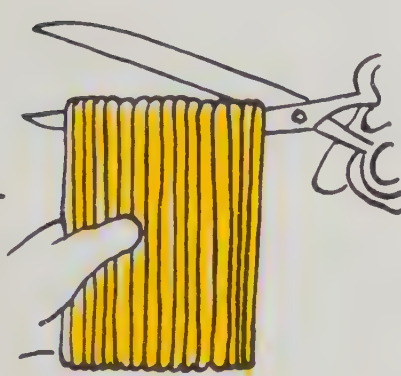
Continue working with the two colors, twisting the blue yarn around the white each time you reach the center of the row, until your work measures 20 inches.

On the next row knit 30 stitches in blue, break off the blue yarn, and finish the row in white. Work in white for 8 more inches. Bind off (*Picture 7*). Make fringe by following directions given below. Attach fringe, two strands at a time, to each end of scarf by pulling through with a crochet hook and tying strands together in a double knot so they won't slip (*Pictures 8, 9 and 10*)

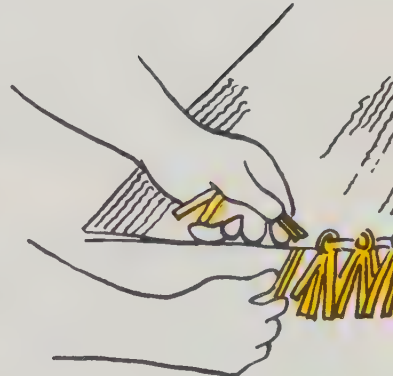
HOW TO MAKE FRINGE



Wind yarn around cardboard
8



Cut across one end and remove cardboard
9



Tie strands on edge
10



Learn to Crochet

It's easier than you think to crochet. Just follow these step-by-step directions and you'll soon know how to make chain stitches, and single and double crochets. You'll need a steel crochet hook (No. 5 steel would be good) and some crochet cotton for practising.

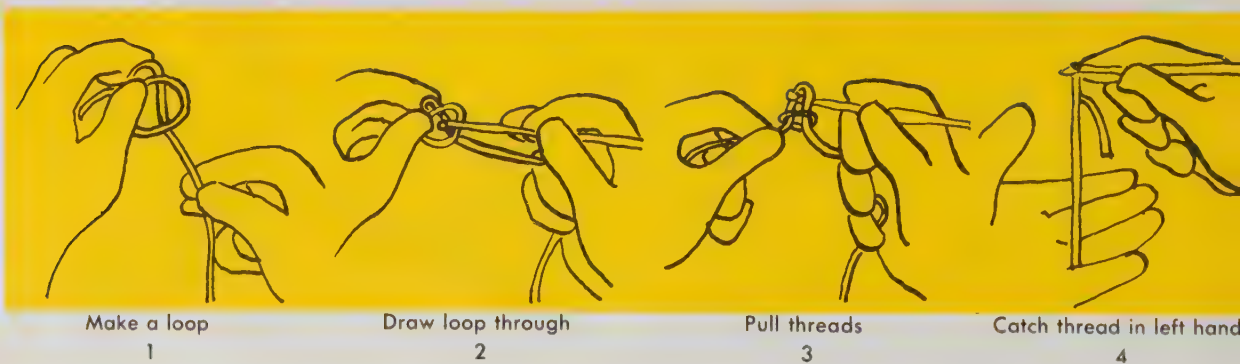
CROCHET STITCHES

HOW TO BEGIN CROCHETING—Make a loop and hold it between thumb and forefinger of left hand (*Picture 1*). Hold your hook just like a pencil and insert it through loop. With right hand catch long end of thread and draw loop through. Do not remove hook from thread (*Picture 2*). Pull short end and ball thread in opposite directions to bring loop close around the end of the hook (*Picture 3*).

HOW TO HOLD THREAD—Measure with your eye about 4" down ball thread from loop. With left palm facing up, insert thread between ring finger and little finger (*Picture 4*).



Bring thread toward back of left hand, under little finger and ring finger, over middle finger, and under forefinger. Grasp hook and loop between thumb and forefinger of left hand. Pull ball thread so that it lies around fingers firmly, but not tightly. Now with your right hand take hold of the crochet hook like a pencil. Rest thumb and forefinger on flat part of hook (*Pictures 5, 6, and 7*):





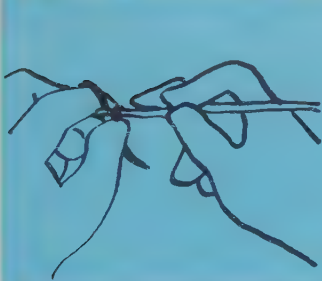
Wind thread over fingers 5



Pull thread tight 6



Hold hook like a pencil 7



Thread over left finger 8



Draw thread through loop 9



Close-up view 10



Practice chain stitches 11



Twist chains for necklace 12

HOW TO MAKE THE CHAIN STITCH—
Hold the thread in your left hand with your thumb and forefinger grasping the knot in the thread. Pass your hook under thread and catch thread with hook. This is called *thread over*. Draw thread through loop on hook. This makes one chain stitch.



13

Repeat this until you have as many chain stitches as you need. Try to make all the stitches the same size (*Pictures 8 to 11*).

HOW TO MAKE NECKLACE AND BRACELET—To make the attractive jewelry, you'll need: a steel crochet hook, No. 5; 78 pearls; 2 clasps; 1 ball of pearl cotton, No. 5. You can get all of these things in the dime store.

Thread pearls on pearl cotton. Leave about 10" of thread hanging for sewing on clasp. Make 6 chain stitches, push over 1 pearl, make 6 chain stitches, push over 1 pearl. Repeat this until chain measures about 13½" with 18 pearls. Finish with 6 chain stitches and leave about 10" for sewing on clasp. Make two more chains just like this. Twist the three chains together and sew on clasp (*Pictures 12 and 13*). For bracelet, work as for necklace, making three chains, each about 6" long with 8" pearls.

Other stitches you will need to know are single crochet and double crochet.

HOW TO SINGLE CROCHET

Make a chain of 20 stitches.

1. Insert hook under two top threads of first stitch.

2. Catch thread with hook.

3. Draw thread through chain. There are now two loops on hook.

4. Thread over again. Draw through two loops.

5. One loop remains on hook. You have just done one single crochet.

6. For second single crochet, insert

hook under two top threads of next chain and repeat steps 2 to 6.

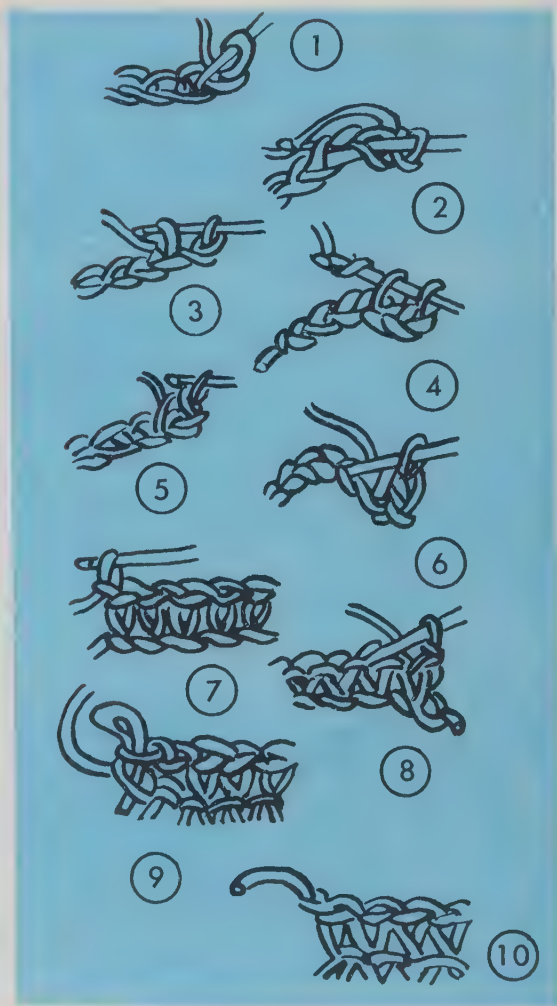
7. To start second row, make one chain at end of row.

8. Turn, and insert hook in second chain from hook. Complete row.

9. To finish off work, clip thread about 3" long.

10. Draw thread through loop and pull tight.

SINGLE CROCHET



HOW TO DO DOUBLE CROCHET

Make a chain of 20 stitches.

11. Thread over, insert hook under the two top threads of fourth chain from hook.

12. Thread over and draw through stitch. Three loops on hook.

13. Thread over again. Draw thread through two loops.

14. Two loops on hook. Thread over

DOUBLE CROCHET

and draw through two loops.

15. One loop on hook, and one double crochet stitch completed.

16. For second double crochet, thread over and insert hook under two top loops of next stitch. Repeat steps 12 to 17.

17. At end of row, do three chain stitches and turn.

18. Start next row in second stitch.

Weaving

WOVEN PLACE-MAT

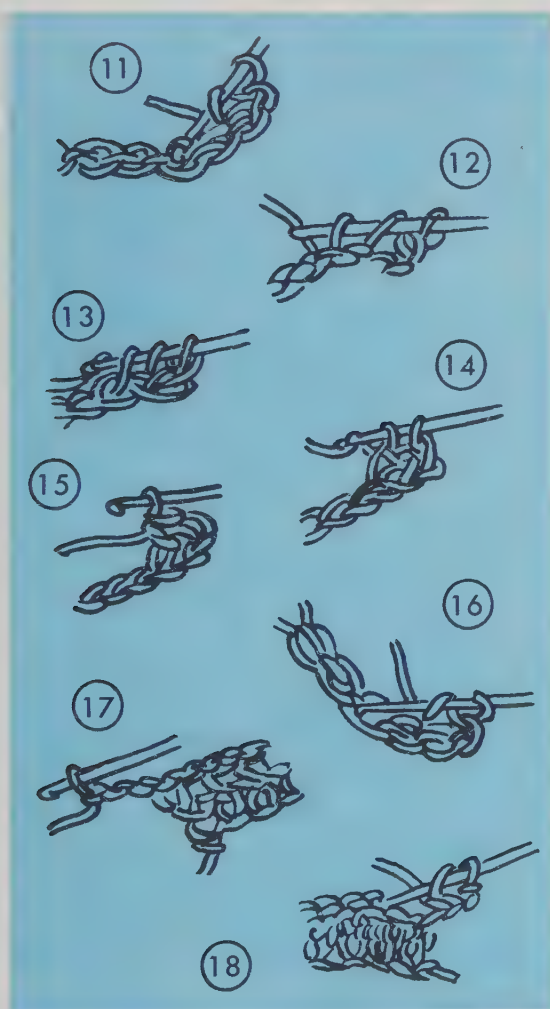
YOU WILL NEED:

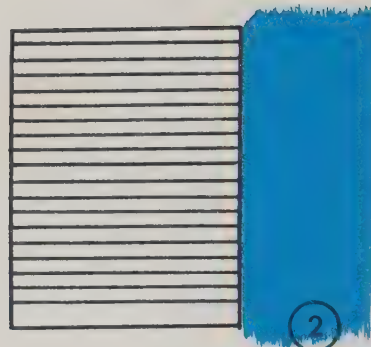
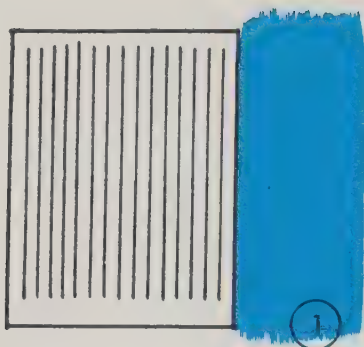
- 2 sheets of paper
- Ruler
- Pencil
- Crayons
- Scissors
- Single-edged razor blade

Get two sheets of paper—one white and one colored. If you cannot find a colored sheet, then take any white sheet and color it lightly with your crayons.

Here's how you make the first part of the mat, the weaving sheet: Draw the lines shown in *Picture 1* on one of the pieces of paper. The lines should start 1" in from the edge of the paper and they should be $\frac{1}{2}$ " apart. Then, with your razor blade, cut along these lines.

Here's how you make the second part of the mat, the weaving strips: On the other sheet, draw lines $\frac{1}{2}$ " apart, as in *Picture 2*. Then cut along the lines with



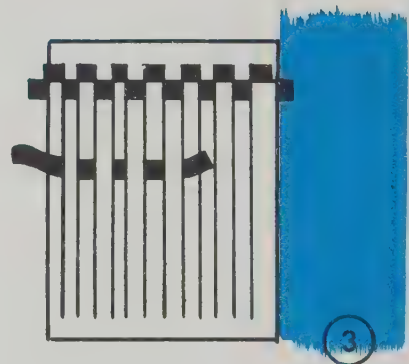


your scissors. You will now have a bunch of separate narrow strips of paper.

Now take one of the strips and slide it over and under the slats of the weaving sheet, until you have woven it across the full width of the sheet, as shown in *Picture 3*. Push the woven strip up to the top of the sheet and then begin with the next strip. This time you weave in just the opposite way — that is, where you went *under* with the first strip, you now go *over* with the second strip.

Continue in this way, weaving across the weaving sheet and then pushing the woven strip close up against the strip that came before. When your mat is completely woven, it is a good idea to tape the strips down by pasting Scotch tape along the edges, on the back of the mat. By doing this you will make sure that your mat will not unravel or become loose.

If you want to make a set of place-mats which can really be used on your table and make them waterproof and strong, then cover the entire face of the mat with a coat or two of shellac.



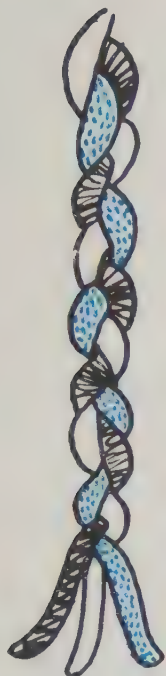
BRAIDED MATS

YOU WILL NEED:

Strips of rags
Needle and thread
Scissors

You can make beautiful and useful mats of all sizes, out of strips of material that Mother doesn't want anymore.

Just tear material of any and all colors into strips. Braid three strips of



①

material together, as in *Picture 1*. Sew the two open ends of the braids together so that the braid doesn't come apart. Then pick three more rag strips and braid them in the same way. Don't worry about matching colors—just mix the colors as much as possible, for the effect will be very pretty.

When you have prepared quite a lot of braided rags, start making the mat itself. *Picture 2* shows how you wind the braided rags into a flat circle. After you wind the first few rows, sew the rows together with heavy, doubled thread, to keep the rug in shape. Continue winding and sewing the braid in this way, until you have the size mat you want.

You can make tiny mats to place under table lamps or under a flower



②

pot; or you can make a door mat. You can even make a much larger rug to beautify your room. These handmade rag rugs are sold for high prices in the stores yet you can easily make one yourself to give as a gift.



Spool Knitting

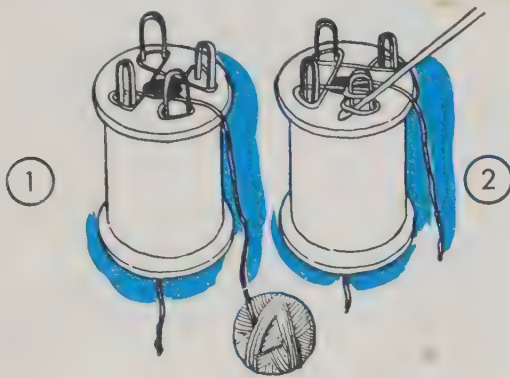
YOU WILL NEED:

A large spool with a large hole
4 staples or double-headed tacks

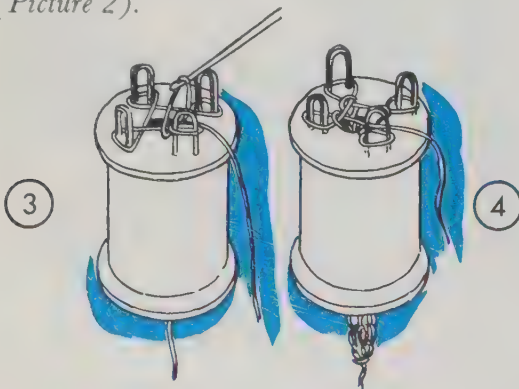
Wool or string

Drop the end of the string through the hole in the spool, and let it hang down a few inches below the spool.

Cross the string that comes from the ball around the staples (*Picture 1*).

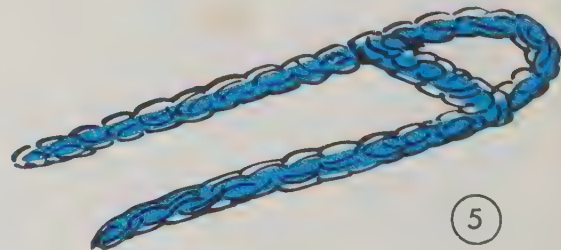


With a crochet hook draw a loop of thread through the loop already on the first staple. Slide the first loop off the staple toward the center of the spool (*Picture 2*).

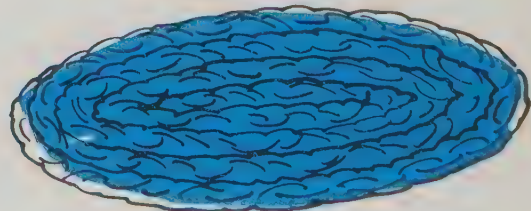


Repeat through the other staples, moving counter-clockwise. Make new loops and slide off the old ones, round and round the spool (*Picture 3*). The finished work comes out through the hole below (*Picture 4*).

HORSE-REINS — You can make horse-reins with your finished spool-knitting. Knit three yards for the reins, and a separate piece one foot long for a cross-piece or harness. Fold the reins in two. Sew the ends of the cross-piece to the reins near the folded end, leaving enough space for the horse's head to go through (*Picture 5*).



MAT—You may want to make a mat for your doll's house or for a lamp to stand on. When you have knitted about two yards, form the mat by sewing the knitting together in circles (*Picture 6*). Sew firmly, but not too tightly or the mat will curl up instead of lying flat.



Fishing in Lakes and Streams

Fishing in streams or lakes is a sport you can enjoy whether you use merely a line and a bent pin or the most modern rod of bamboo or fiberglass. You can start with some simple home-made rod, and when you grow older you may want to buy a good one with a reel. Then you will need to know something about rods, lines, and reels, and the different kinds you will have to use for bait-fishing and fly-fishing.

What You will Need When You Fish with Bait

RODS—The rods you use for bait-casting can be in one piece or two pieces joined together. The total length should be about 5 feet or 6 feet. They can be made of bamboo or steel or fiberglass. You will need a heavy rod for large game fish and a lighter rod for smaller fish. Many fishermen like a light rod because they can get more action with it when landing their fish.

REELS—There are many different types of reels for the bait fisherman. Single action, multiple action, and spinning reels are all good, and each one has its place in fresh-water fishing. When you have selected the rod you want, your local tackle store dealer will tell you

what type of reel is best suited to the rod. The main purpose of a reel is to hold the line you are fishing with.

LINES—Lines are made of silk or nylon and you can get them in different lengths and weights. Here again it is best to consult your dealer to get from him the proper line for the rod and reel you want to use. For ordinary bait-fishing, about 50 yards of nylon line of roughly 18 lb. test should do the job. This means that the line will stand a pull of 18 lbs. without breaking.

It is a good idea to have a landing net too. If you try to land a large fish without the help of a net, you will often lose the fish, break the line, or damage the rod.

What You will Need When You Fish with Flies

RODS—You will need a longer rod for fly-fishing than for bait-fishing. It should be from 7 feet to 9½ feet long. Fly-rods can be made of the same material as bait-fishing rods, but most fly fishermen seem to like bamboo and fiberglass rods best. Bamboo rods are strips of bamboo cane glued together so that the finished rod gradually tapers from the butt to the tip. It is interesting that on a fly-rod

the reel is always placed behind the cork grip.

The length and action you need in a fly-rod will depend upon the type of fly-fishing you want to do. Wet flies (those fished beneath the surface) usually call for a rod with less stiffness than do dry flies (flies fished on the surface). Here again your local dealer can be a big help in selecting the proper equipment for the kind of fishing you want to do.

REELS FOR FLY-RODS—In fly-fishing a single action reel is all you need. Line is stripped from the reel with the left hand, and by making a series of false casts you can get out enough line to reach a particular fishing spot. When a fish has been hooked, he may be played directly from the reel. Then the line is wound back on the reel until the fish is near enough for netting. Another method is to strip in the line by hand without using the reel, and in that way bring the fish in close enough for netting.

LINES FOR FLY-RODS—In fly-fishing you keep lifting your line from the surface of the water, making many false casts and then casting again to some likely spot. The line is heavy and it has to be kept from sinking into the water to prevent too much drag. Manufacturers treat the silk or nylon in a special way to make it float. In addition to this it is necessary to dress your line frequently with a waterproofing compound which you can buy at your local tackle store.

If your fly-line is to be stored for any length of time, it is always best to take

it off the reel and coil the line loosely to be hung in some dry place. It is bad practice to leave a good fly-line on a reel for more than a short time.

Spinning

This is a fairly new type of bait-fishing that is simple and well worth while. Here again your local tackle dealer can furnish you with the proper equipment. Because the spinning reel has no revolving spool, it is easy to use, and because no back cast is required, this kind of fishing can give you a good catch in spots where other methods might not.

Trolling

Fishing from a moving boat is called trolling. You sit with your back to the front of the boat, and trail your bait over the stern or back of the boat.

If there are two of you one can row slowly and the other hold the rod. But you can troll by yourself. You lean the rod against one of the thwarts (or seats) of the boat, making sure the reel is in position to click. When it does click, you quickly let go of the oars and pick up the rod.

Use either live bait or artificial lures. Fish at whatever depth you decide is best for your particular river or lake. For lake trout you may need a specially heavy rod, because this fish is often found 100 feet down.

Fishing from a Bank or from a Moored Boat

This is called "still fishing." Use either a bait-fishing rod or a fly-rod. If you use a fly-rod, do not use your good fly-line because it will get a good wetting. Any old line will do.

Tie a float at a certain point on the line, depending on how deep you want your bait to sink. When the float bobs up and down, reel in and look for a fish.

Where to Look for Fish

Fish for trout in clear streams only. Brown trout like slightly warmer water. All fishing, generally speaking, is better in the evening or shortly after daybreak.

Bass can be found almost anywhere in ponds and rivers. Look for large-mouth bass among the weeds in a pond.

Pickerel usually swim in shoals, in weed beds.

Panfish like to hide among the weeds.

Pike and wall-eyed pike like deep water in rocky places.

Bait

You can use anything for bait that seems to the fish to be swimming or crawling. Fish eat their own eggs. Big fish eat little fish. If they did not do this, very soon the oceans and streams and lakes would be all fish and no water. However, even if fish will eat almost anything, you will have better luck catching them if you know what they like best.

Trout like salmon eggs, minnows, small crayfish, angleworms, night-crawlers, insects.

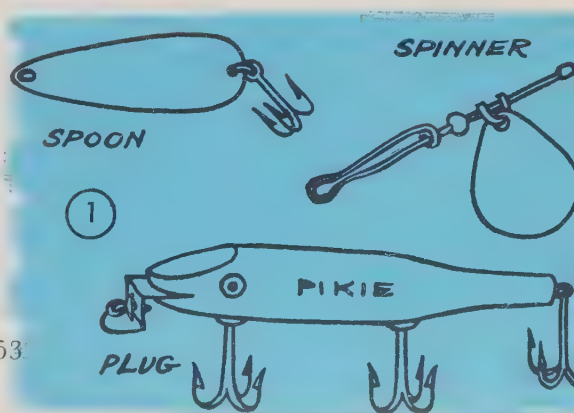
Panfish (*perch, blue gills, sunfish, rock bass*) like worms, insects, minnows.

Bass (large-mouth, small-mouth) like minnows and frogs.

CASTING YOUR BAIT—Use live bait or artificial lures. Keep casting your lure out from the boat or bank and pulling it in again and again. Vary the pace because sometimes a difference in speed of return means the difference between a fish and no fish. The line draws the lure after it. Drop the lure in a likely spot and if you have no luck there, try another and still another.

It is a good idea to practise casting in some open space, using a wooden plug without hooks for a lure. Your backyard, an open field, or even a school gymnasium are good places to practise. After a while you will find it easy to drop a plug just where you want to.

ARTIFICIAL BAIT-CASTING LURES—These have been used only since the beginning of this century, but today you can buy a great many kinds of strange-looking spoons, spinners, and plugs (*Picture 1*).



Do not use lures that are too heavy for your rod. A one-ounce lure is not too heavy for a stiff-action rod, but for a medium rod the lure should not weigh more than $\frac{1}{2}$ ounce, and less for a lighter rod. In spinning, extremely light lures— $\frac{1}{4}$ ounce or less—are best.

A lure may be fastened directly to the line, or a leader may be used between the line and the lure. In some cases these leaders are made of wire to prevent a fish from biting through them. But this is necessary only when you are fishing for large fish. Ordinarily a monofilament nylon leader 3 or 4 feet long will be all right. Naturally the leader should be as strong as the line itself.

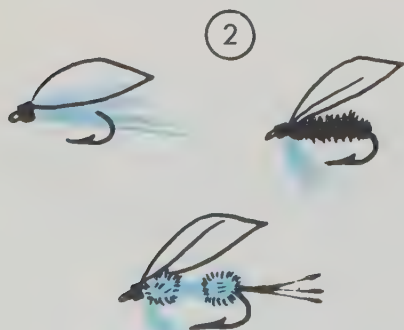
FISHING WITH FLIES—Imitation insects such as flies, bugs, nymphs, grubs, etc., are common artificial lures. They look like live insects and may be used for almost all types of fresh water fishing.

When you are fishing for trout you can use wet flies and nymphs. With these you can fish below the surface of the water much as you would with live bait. Dry fly-fishing for trout needs a little

more skill but it is more interesting because the fisherman is in a position to see the trout actually take the fly. Here the fly floats on the surface of the water and because it must float, it is not made like the wet fly. (*Pictures 2 and 3 show these different types of flies*).

The artificial fly is not tied directly to the line itself, but must be attached to a nylon leader usually about 7 feet long and tapering slightly from the butt to the tip. It is made in separate sections which are knotted together. Each section is lighter in weight and width than the one before it so that the lightest comes at the end to which the fly is tied.

For catching bass you can use bass bugs or large flies of the wet variety. The leader then should be heavier and shorter. Bass bugs are made to look like frogs, mice, moths, or other insects. Fishing with artificial flies and bugs is immensely interesting. But it is an art that requires time and patience to perfect. Generally speaking, your cast should cover about 30 feet and in the direction of the shore, weeds, rocks, or any likely spot where fish might be.



WET FLIES



DRY FLIES

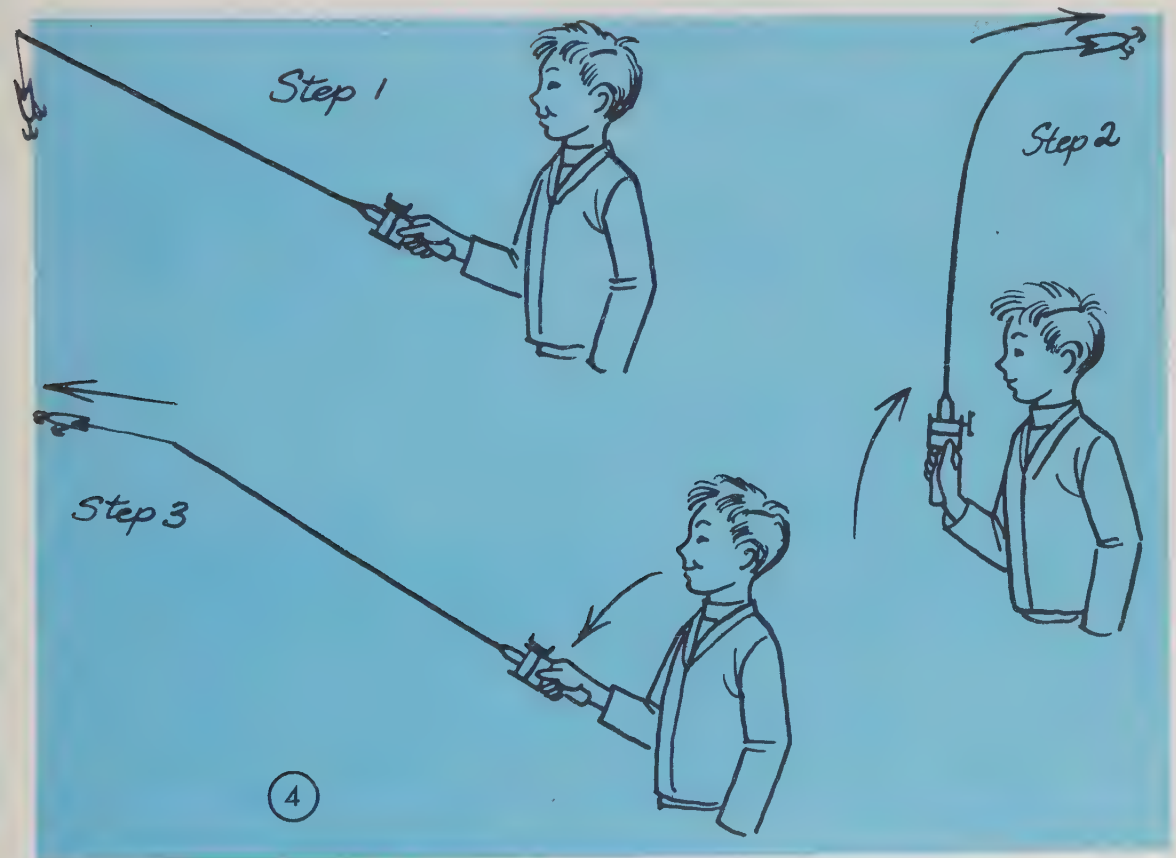
ARM MOVEMENTS WHEN CASTING BAIT—When using a bait-casting rod, keep your elbow close to your side. Fish with your wrist and forearm.

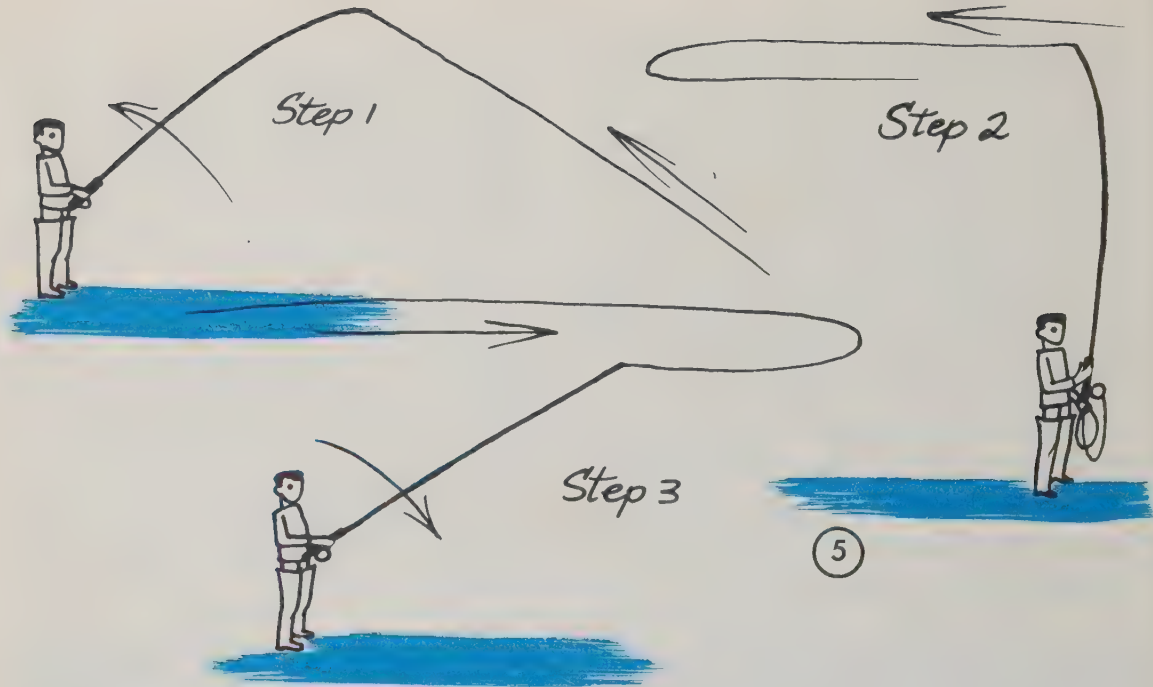
Hold the rod at an angle of 45 degrees, and the bait or lure will be about 6 inches from the tip of the rod. Keep the spool from unwinding with your thumb. Notice that in this position the reel faces up.

Jerk the rod up over your right shoulder, keeping your elbow still at your side. Then snap the rod down again to the first position, and at the same time release your thumb from the

spool. As the lure or bait hits the water, you must again apply pressure upon the spool with your thumb to prevent what is called backlash. You will need a little practice to master this routine (*Picture 4*).

In spinning you cast in the same way although the rod is slightly longer and the reel is of the fixed spool variety. Complete instructions come with most spinning reels, showing in detail just what to do. In general, the arm movement is the same as for a bait-casting rod.





ARM MOVEMENTS WHEN CASTING A FLY—The big difference between fly-casting and bait-casting is this: In bait-casting the lure carries out the line; in fly-casting the line carries out the fly.

For best results, it is important that your line is the right weight and size for the rod you are using. Practise fly-casting on your own lawn if you have one big enough or on the stream itself. First put your rod together, thread the line through the guides to the tip, tie on an old fly, and snip off the hook. Hold the rod comfortably in the palm of your hand, with your thumb on top of the cork grip. Keep your elbow at your side.

Now strip off a few feet of the line from your reel with your left hand. Lift the rod with your wrist and forearm, being sure you keep your elbow close to your side. Your line will be lifted into

the air and will follow back over your shoulder and then straighten out. Before it quite straightens out, bring your rod forward again using only your wrist and forearm. At the same time let out more of the line in your left hand and if necessary, strip more from the reel. A series of these false casts will allow you to let out 25 or 30 feet of line easily. Naturally more line must be let out for greater casting distance (*Picture 5*).

There are many different ways of fishing and there are thousands of different lures available. Rods can be bought for a few dollars or they can be very expensive. But you can catch fish with nothing more than a simple line tied at the end of a stick or just a handline. It is a wonderful sport, and you can have a fine time at it. The more fishing you do, the more fun you will get out of it.



Made on Ansco Film

357 *Courtesy of The Wayside Gardens Co. Inc.*

Kites

Kites have been used for a great many purposes. Centuries ago the Chinese made kites and flew them because they believed kites kept evil spirits away. Benjamin Franklin used a kite to bring electricity out of the air. The governments of many countries have flown kites high into the air to observe weather conditions.

Your kite may not look exactly like any of the complicated kites that were made for such special purposes. But its design will be the same. All kites are designed so that the wind, pushing against the flat surface of the kite, carries it off the ground and up into the air.

A Broom-Straw Kite

YOU WILL NEED:

A piece of light wrapping paper or tissue paper about 9" by 10"

2 straws from a stiff broom, one 10" and one 9" long

1" wide strips of paper pasted together to make a tail 4 feet long

Spool of nylon or cotton thread for a line

Scissors

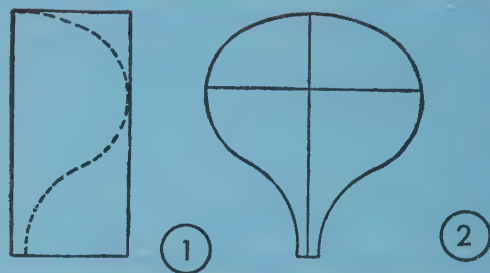
Needle and thread

You can make this kite in about 10 minutes.

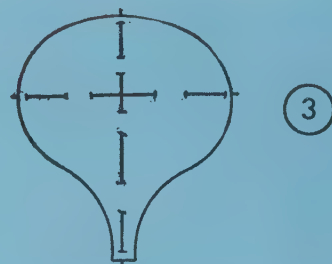
(" means *inches*)

First, fold the 9" by 10" paper across to make your doubled sheet 4½" by 10".

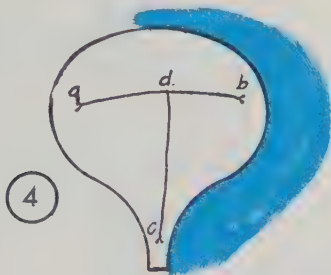
Next, draw the shape outlined in dots, and cut along this curved line (*Picture 1*).



Open up. Make a crease across the paper at its widest part, about one-third from the top (*Picture 2*).



You now have two creases to guide you. Thread your two straws through the paper, one down the center crease from top to bottom, and the other along the crease from side to side (*Picture 3*).



Turn the paper over. Take your needle and thread and fasten one end of the thread to the horizontal straw at *a* (*Picture 4*). Pass the thread through the paper, around the straw and back through the paper again. Carry the thread across



the kite to *b* and fasten the same way as at *a*. The thread from *a* to *b* should have a little slack in it. Break off the thread.

Fasten thread to the bottom of the vertical straw at *c*, and carry thread up to the middle of the horizontal thread at *d*. Do not pass the thread through the paper at *d*.

Tie your line to the intersection of these threads at *d* (*Picture 5*).

Paste on the tail.

Your kite should fly without giving you any trouble. If it does not, the tail is probably a bit too long. Tear a little off and see if it balances better.

How to Make Better Kites

GENERAL KITE CONSTRUCTION

For the framework of an ordinary kite you need:

Two sticks of light tough wood, one for the upright or spine, and the other for the crosspiece.

Enough cord to lash the sticks together and to "string" the kite. (Stringing means passing cord securely around the outside of the frame.)

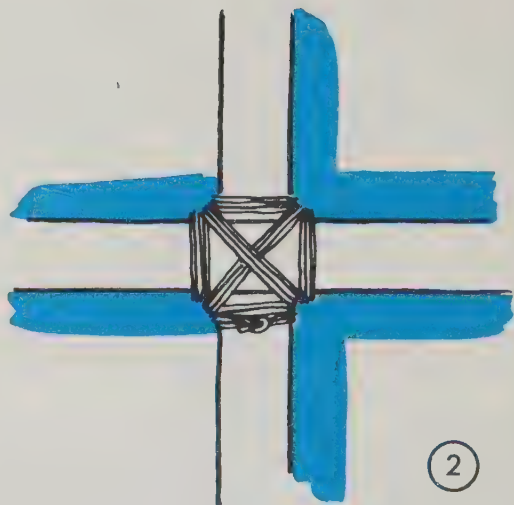
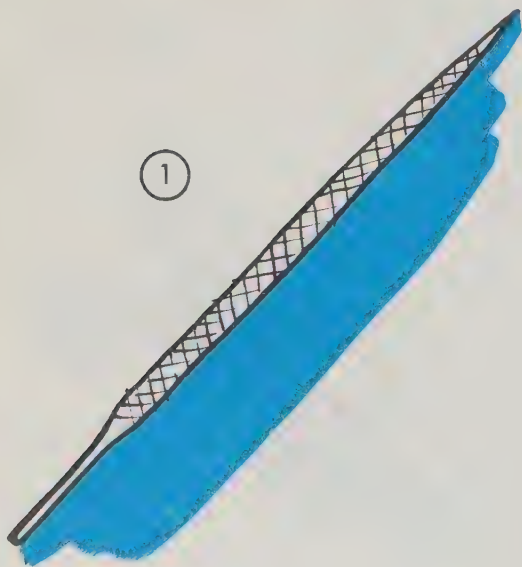


KIND OF WOOD TO USE—Spruce, pine, or white cedar are satisfactory. Split bamboo, that you can get from a florist, bends easily, making it excellent for light kites with curved outlines. Or you can use strips cut from orange crates.

SIZE OF STICKS—For small and medium kites (one, two or three feet long) the sticks should be:

$\frac{1}{16}$ " thick by $\frac{1}{4}$ " wide, up to
 $\frac{1}{4}$ " thick by $\frac{5}{8}$ " wide.

TOOLS—The only tools you need for small kites are a pair of scissors and a good sharp knife. The inexpensive kind you can buy at hobby stores will do. When you cut, be sure your strokes are away from yourself. And never keep an open knife in your pocket. For larger kites that require notching at the ends of the sticks, you will need a coping-saw or, better still, a rat-tail file (*Picture 1*). (See page 303 for how to use a coping-saw.)



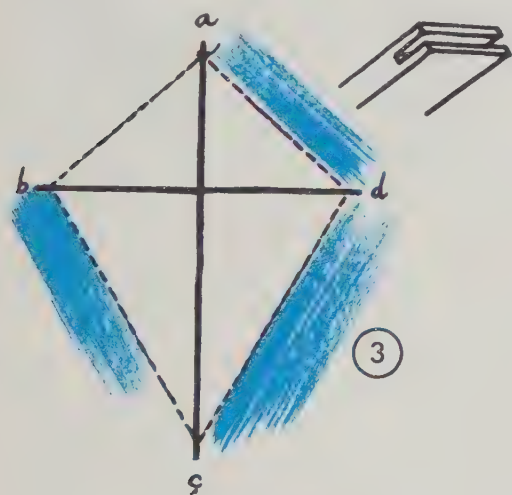
Use sandpaper to rub down your sticks if you want them to be smooth. And it is a good idea to make a drawing of your kite before you start building it, so for that you will need pencil, paper, and a ruler.

LASHING STICKS TOGETHER—First make a mark on the spine where the crosspiece is to go. See that the middle of the crosspiece is exactly on this mark.

Hold one end of the cord in your left hand. Then wind the cord diagonally both ways around the two sticks where they cross. Wind it both ways several times, and draw the cord tight. Then wind the cord over each stick at the crossing (*Picture 2*). Tie the two ends of the cord firmly together. (See page 366 for how to make simple knots.) Then coat the cord with glue or shellac.

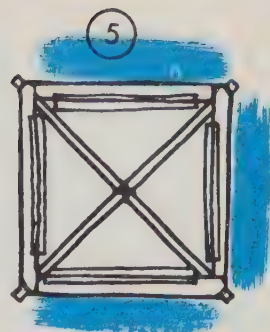
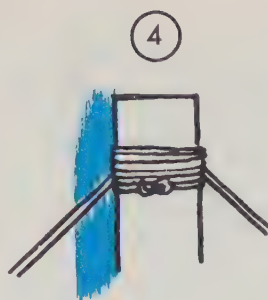
STRINGING THE KITE—Tie the end of the cord to the top of the spine, *a*. Make notches in the other three ends of the frame, marked *b*, *c*, and *d*, in the drawing (*Picture 3*). Then pass the cord around the frame, and the notches will keep it from slipping off. Use a rat-tail file or a coping-saw to cut the notches. When you have run the cord all around the frame and tied the end again at *a*, wind some cord firmly around both the stick-end and the string. This will help to hold the stringing in place (*Picture 4*).

Measure the strings to see that the two upper ones—from *a* to *b* and from



a to *d*—are the same length, and the two lower ones—from *b* to *c* and from *d* to *c*—are also the same length.

COVERING FOR THE KITE—Tissue paper and light wrapping paper are both very good for small kites. For larger models use the new materials — cellophane, nylon, or plastic. You can fasten these to the frame with cellophane tape.



Leave a border of covering material around the outside of the frame. Fold this border back over the edge of the frame, and paste or tape it down onto the back (*Picture 5*).

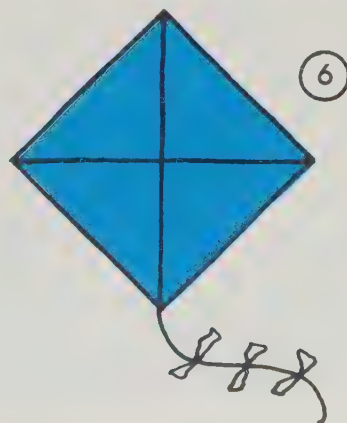
TWO KINDS OF KITES

1. Flat kites that need tails.
2. Kites that have a bowed cross-piece and no tails.

FLAT KITES — These can be made with either two sticks or three sticks.

The two-sticker is made with two sticks of the same length, crossed at the center, and with a string run around it to make a square (*Picture 6*).

The three-sticker is stronger than a two-sticker, and just about as easy to



make. The three sticks are the same size. Two cross diagonally at the center. The third crosses horizontally at the center (*Picture 7*).

TAILS — The tail helps to control and balance the kite in the wind.

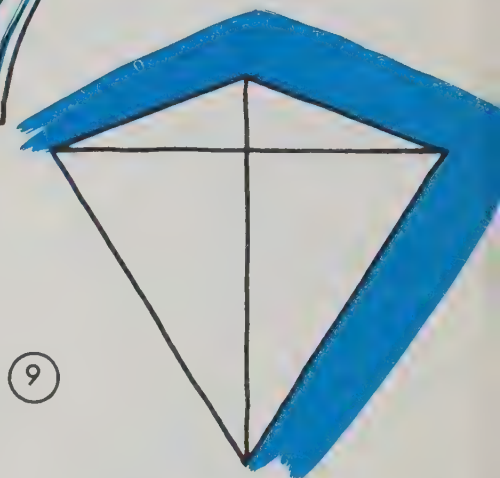
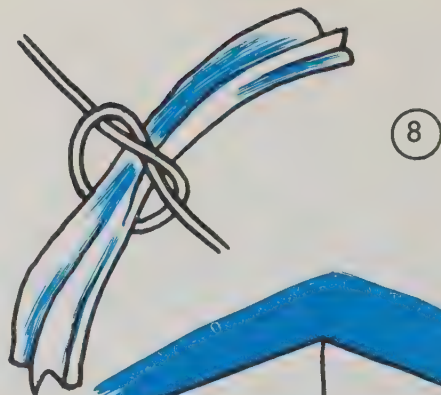
To make a tail, cut four or five strips of rag, about 1½" wide by 6" or 7" long. Attach two or three feet of string to the end of the kite. Knot the strips of rag into the string, 5" or 6" apart. A single knot will do, because the weight of the tail will keep the knots tight (*Picture 8*).



TAILLESS KITES—The two-sticker tailless kite is known as the Malay or the Eddy. This was the kind of kite used as a target during World War II to train gunners.

The two sticks are the same length. They cross each other at a point about one-seventh of the distance down from the top of the upright stick (*Picture 9*).

Pass a string around the ends of the sticks to make the shape of a diamond.



The crosspiece of a Malay should be bowed. A good way of doing this is by the hook-and-eye method, like this:

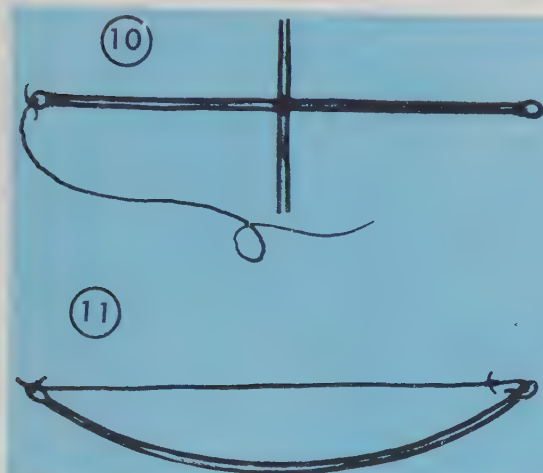
Before the kite is covered, bind a wire eye to each end of the crosspiece.

Tie one end of a piece of cord (the bowstring) to one of these eyes (*Picture 10*).

Make a mark on the cord to show where it is to be attached to the other end of the crosspiece to make the crosspiece bow sufficiently. Bind a wire hook to this end of the bowstring, making sure it comes right on the mark you made (*Picture 11*). This hook will fit into the second eye and can be unhooked whenever the kite is not in use.

Here is an easier way to bow a kite if you are in a hurry:

Take a piece of string or cord and make a loop at each end. The length of the cord should now be the right length to make the crosspiece bow as much as you want it to. Loop the ends into the notches on the ends of the crosspiece.



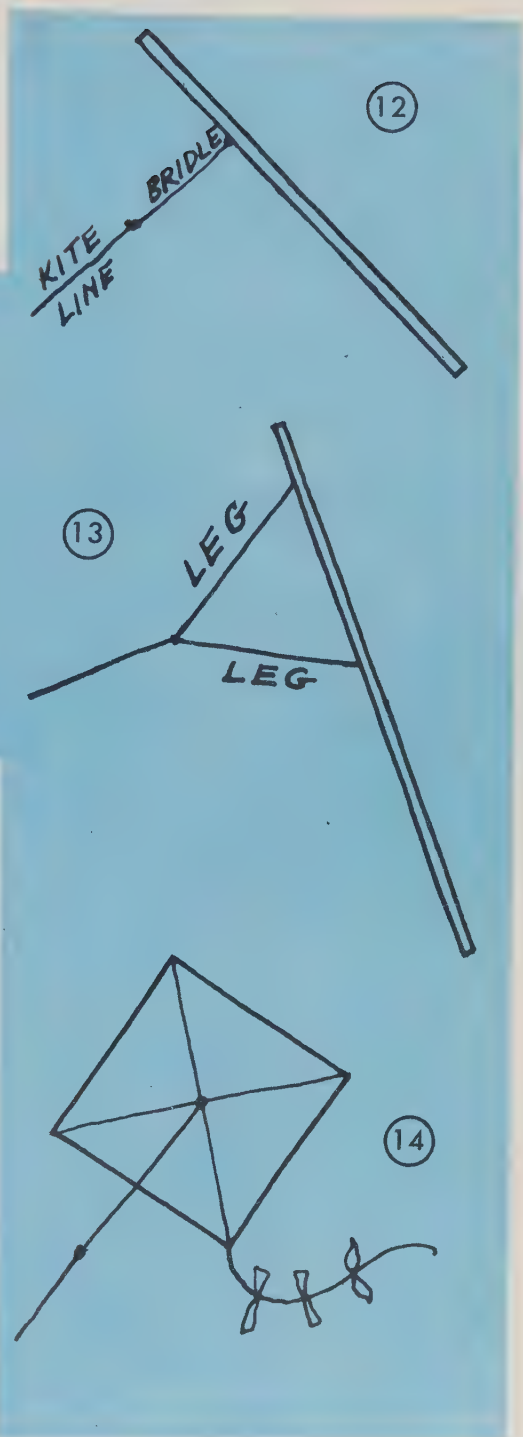
BRIDLES

A bridle helps to hold a kite into the wind, and to control it when it tries to wander up, down, or sideways.

To make a bridle, use a short piece of cord or string and fasten it to some part of the kite, preferably somewhere on the upper half of the spine. This end is then fastened to the kite line (*Picture 12*).

When you use several pieces of cord and fasten them to several different places on the kite, each piece is called a leg of the bridle (*Picture 13*).

A small flat kite can fly quite well with a single bridle tied to the center crossing (*Picture 14*).



A Malay may have a single-leg bridle tied to the crossing of the sticks. It usually needs a two-leg bridle, though. One leg is fastened at or near the top of the spine, and the other at or near the bottom of the spine (*Picture 15*).

A small or medium three-sticker usually takes a three-leg bridle. Attach one leg to the center crossing and one to the top of each upright (*Picture 16*).

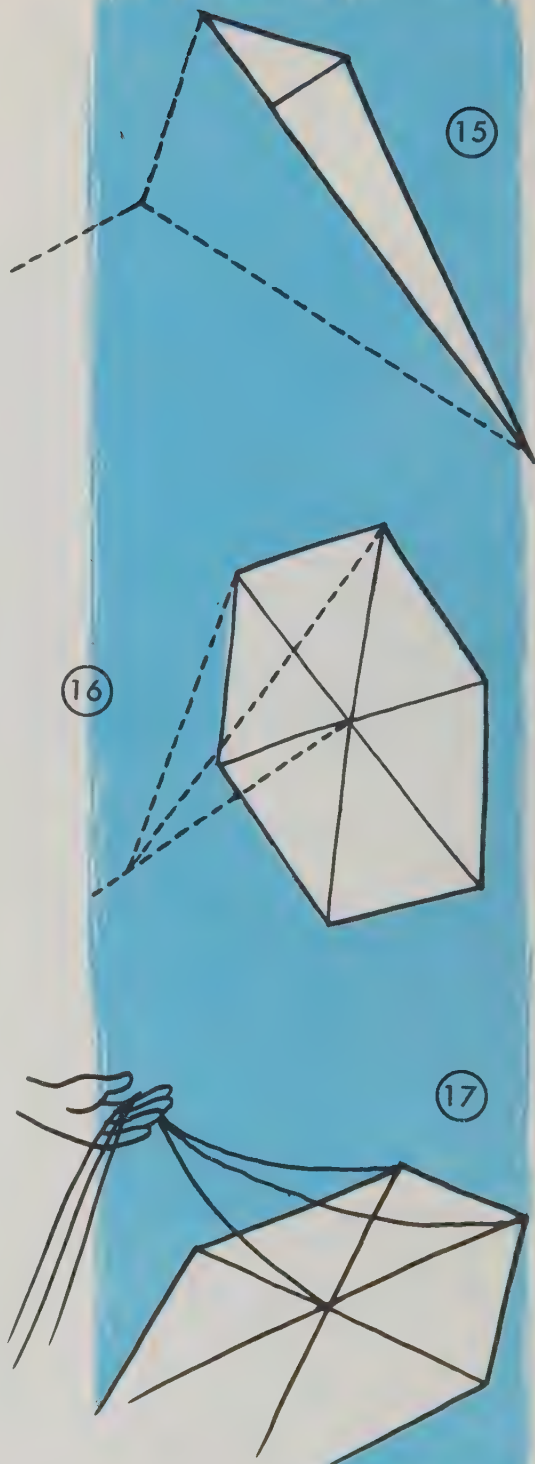
SETTING THE LEGS OF THE BRIDLE—You can set the legs evenly for any kite if you gather the leg lines loosely in your hand and draw your hand along the lines. If there are more than two legs, draw them together away from the kite's surface, and see that the legs are all of the same length. Then join them (*Picture 17*).

LAUNCHING THE KITE

You will need a helper when you start flying your kite. Hold the end of the earth line yourself. Let your helper go 50 to 100 feet downwind from you and hold the kite off the ground at the angle it is going to fly at. He should stretch the tail out along the ground downwind, away from you.

A flat kite needs the balance a tail gives it during its first few feet of rising into the air. Without its tail it might go into a spin or a dive.

Wait for the wind to feel steady before signaling your helper that you are



ready. Then gradually take up the slack in the line, hand over hand, until you feel the slight pull of the kite. That is the moment for your helper to let go of the kite, and up it goes.

The best place to fly a kite is in a large open space with no telegraph wires to entangle your line, and not too many trees.

GAUGING THE WIND

You need wind, but not a high wind, to fly a kite. Here is a scale for you to measure the speed of the wind for yourself:

A wind that rustles the leaves of trees is blowing at 4 to 7 miles an hour.

A wind that keeps the leaves moving constantly, or keeps a flag flying straight out, is blowing at 8 to 12 miles an hour.

A wind that raises dust and blows papers about is blowing at 13 to 18 miles an hour.

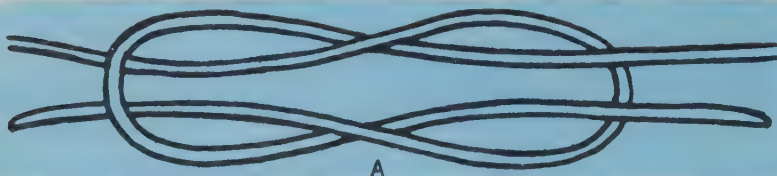
A wind that makes young trees sway is blowing at 19 to 24 miles an hour.

The best wind for kite-flying is one blowing from 8 to 15 miles an hour.

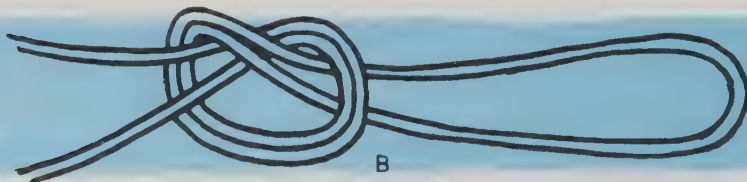


Knots

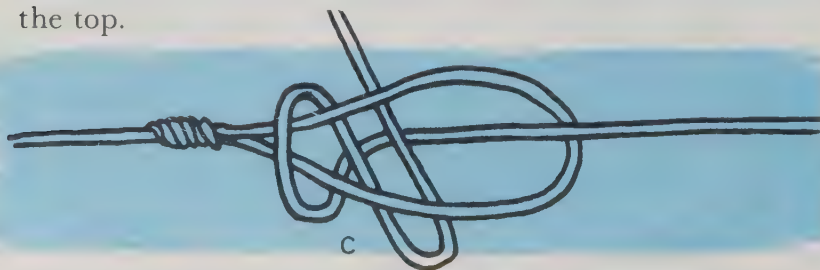
The most commonly used knot is the reef, or square knot, shown in (a). Look closely at the picture to see the way the short ends cross the loops. This knot is used for joining two ends of string or cord, or to fasten a lashing.



The loop knot (b) is used at the end of a string to make it fast to another string or to a ring. You double the end piece of the string, then make a simple knot in the doubled string an inch or two from the end. Pull tight.



Picture (c) shows you how to fasten the bridle loop of a kite to the line string. It is called a helm knot or tiller-hitch. You can undo it by pulling on the loose end at the top.





The First Secret of Magic

Magic is fun. It's fun to do and fun to watch—if it fools people.

Here is the first secret: It's not tricks that fool an audience—but the person who does the tricks.

In this section you'll find many easy tricks with money, string, handkerchiefs, figures, and other articles. They are all good magic. But they will only fool an audience if *you* do them right.

You see, it's hard to fool someone's eyes. A magician's hand is not quicker than the eye. The important secret magicians use is this: They know how to make a person look somewhere else when they have to do something secret.

Nobody can look two places at once. If you know how to make a person look

at one hand, he won't see what you are doing with your other hand.

So when you are learning a trick and are told to do or say something that might not seem important, do it anyway. Do it just the way you are told. There's a good reason for it. It's to make your trick fool people.

All the tricks here are easy. All of them have fooled people over and over. They've been chosen too because they don't need any special equipment from a magic store. You'll find almost everything you need in your home. For two or three of the tricks, you'll want to go to the five-and-ten for some inexpensive supplies.

Later, you may want to buy some

real magic equipment. There's a good magic store in almost every town, and the experts there will be glad to help you get the things you should have.

All real magicians follow the rules given here. If you want to be a good magician, you will too.

1. Practise each trick over and over before showing it to anyone. If you show it before you've really learned it, you'll just give it away or have it fail.

2. Never, never tell your audience how you did a trick . . . no matter how much they beg. As soon as they find out, all the mystery is gone. They won't even be excited about other tricks you do, once they find out how simple the secrets are.

3. Never do the same trick twice for the same person. The first time, your friend never knows quite what will happen next. The second time, he watches every move. So he sees things he didn't

Never tell how
you did it!



see the first time—things you don't want him to see! Do another trick instead.

4. Never be smart-alecky. This makes people angry. Even if you fool them, they won't want to see another trick. It's no fun knowing magic if people don't want to watch. So be quiet and modest. Act as if you were surprised too.

Now go ahead. You'll have fun!



Practice in front
of a mirror
if you can

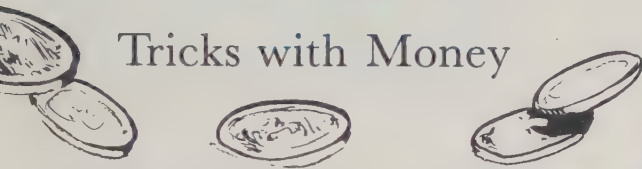


Don't do the trick
twice—you'll be
found out



Don't be
smart-alecky

Tricks with Money



RUBBING A QUARTER AWAY—All you need for this trick is a quarter. It should be your own quarter, because after you make it disappear you can't get it back again right away.

Tell your audience you're going to rub the quarter through your elbow. Take it in your right hand. Bend your left arm and rest your left hand on the back of your neck so you can see your elbow.

Rub the quarter against your elbow with your right fingers. After four or five rubs, let it slip out from under your fingers and fall to the floor.

Pick up the quarter with your *left* hand. Put it in your right hand. Put your left hand behind your neck again and go on rubbing.

Drop the quarter again. Pick it up

again and begin rubbing. After a moment, take your right hand away. The quarter is gone. Both your hands (and sleeves) are empty!

Here is the secret: the second time you drop the quarter, pick it up in your left hand just as you did the first time. Pretend to put it back in your right hand. But, instead, just bring your hands to-



Rub the quarter
against your
elbow

gether and leave the quarter in the left hand. Don't pay any attention to this at all. Don't look at your left hand. Put it behind your neck again and, with your right fingers tight together, begin rubbing your elbow. Your left hand drops the quarter down your collar, and there you are!

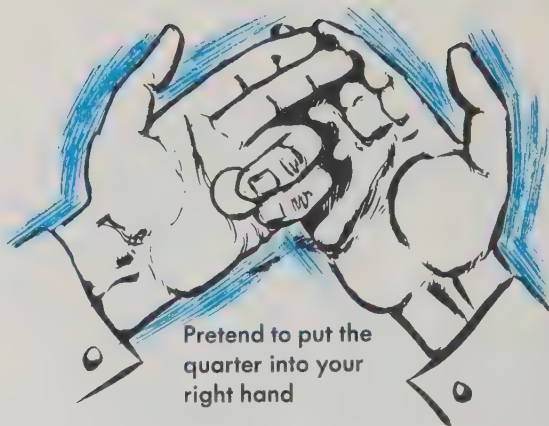


You dropped it
down your collar

Be sure to drop the quarter *twice*. It gets everyone used to your picking it up with your left hand and putting it in your right hand.



Pick up the quar-
ter with your
left hand



Pretend to put the
quarter into your
right hand

THE DISAPPEARING NICKEL

Here is another way to make a coin disappear.

You give a friend his own nickel to hold under a handkerchief. While he's still holding it, you whisk away the handkerchief. The nickel is gone!

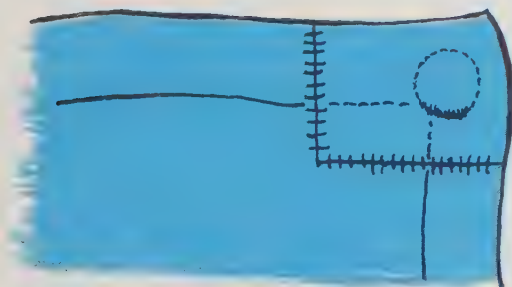
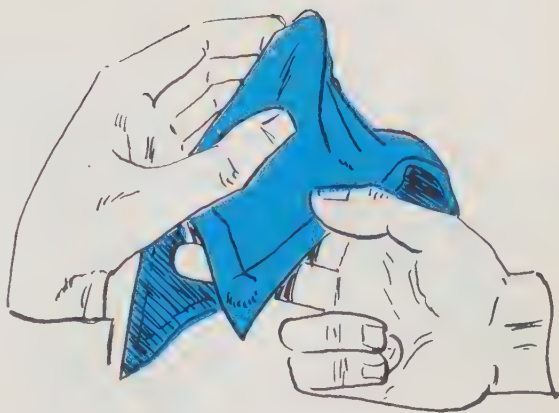
You must prepare the handkerchief ahead of time. The best way is to get one with a hem as wide as a nickel. Cut some of the stitching on the hem near the middle of one side. Push a nickel inside the hem and shove it along until it's in the corner. Sew up the hem again.

If you can't get a handkerchief with a hem that wide, you can sew a little patch of white cloth neatly over the nickel in the corner. Nobody is going to look at the handkerchief very closely. Another way is to get a washer the size of a nickel and cut it in half, stuffing this inside the hem. You can use a narrower hem this way, and there is no

patch. Any one of the three ways will work.

Have this handkerchief in your right pocket with the nickel corner on top so you can tell where it is.

Ask to borrow a nickel. (Be sure to have one yourself, in case nobody else



has one.) Take out the handkerchief with your right hand, holding it by the corner that has the nickel in it. Take the middle in your other hand and let all four corners hang down — the corner with the hidden nickel toward you.

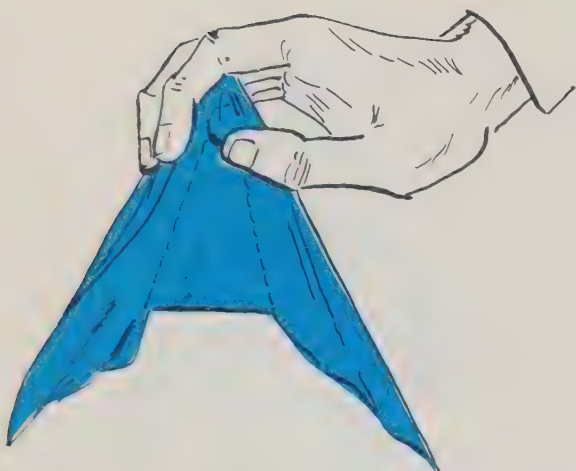
Take the borrowed nickel in your right hand and put it under the handkerchief. But as soon as your hand is out of sight, grab the corner with the hidden nickel and push this up. Grab the hidden nickel through the handkerchief with your left hand.

The nickel you borrowed is still in your right hand, under the handkerchief. Close your hand around it and take it out from under the handkerchief.

Don't look at your right hand. This is important. If you look at it, so will everyone else. Let it drop to your side and leave it there while you watch your *left* hand.

Ask someone to hold the nickel through the handkerchief just as you are doing. Let go after he has hold of it.

"Hold it a little higher," you say. "No,



that's too high. Just a bit lower." While you say this, lean forward and stare at his hand as if the way he held it were very important. During all this, put *both* your hands in your pockets. Not just one, both. Leave the borrowed nickel in your pocket and, after a moment, take both

hands out. And don't look at them. If you do all this just as I say, while you are talking and looking at the handkerchief, I promise you nobody will remember you put your hands in your pockets.

"That's just right," you say. "Ready? Alakazam!"

Grab a hanging corner of the handkerchief and whip it out of his hand. Wave it back and forth. Snap it. Toss it up in the air and catch it. Everyone can see the nickel is gone.

Show your hands empty and get his nickel from your pocket. Put your handkerchief away. Start another trick before someone asks to see it.





PENNY, NICKEL, DIME, QUARTER

Nobody will be able to figure out how you know what coin has been hidden under the teacup! You go out of the room while your audience decides whether it is to be a penny, nickel, dime, or quarter. Then someone turns the cup upside down over it. You come back and tell what it is.

This trick needs a secret helper. One of the people in the room tells you which coin is under the teacup — but he doesn't have to say a word. He tells you by the way he puts the cup over the coin!

Imagine that the handle of the teacup is a pointer. The friend who is secretly helping you puts down the cup with the handle away from you if the penny is under it. If it's the nickel, he puts the handle pointing to the right. If it's the dime, the handle points toward you. And if it's the quarter, the handle points to the left.

Simple as this seems, just try it. Be sure not to look at your secret helper, and make him promise to keep from laughing. He has to act just as surprised as everyone else is.



Penny



Nickel



Dime



Quarter



Tricks with Handkerchiefs

THE KNOT THAT TIES ITSELF

Imagine being able to take a handkerchief out of your pocket, shake it a few times, and have a real knot tie itself in the corner!

The secret is that you already have a loose knot tied in one corner. Don't pull it tight—then someone could tell that it didn't really tie itself. Have the handker-



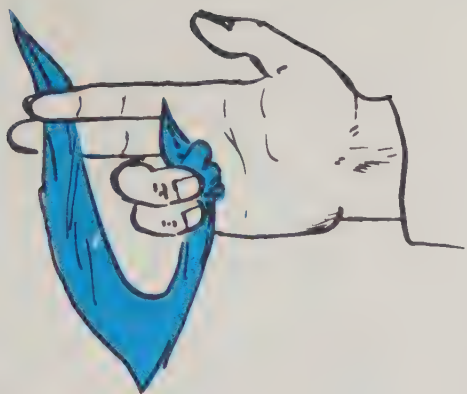
chief in your pocket with the knot on top, where you can feel it when you reach in your pocket.

"Did you ever see a knot tie itself?" you ask your friends. When they say they haven't, ask to borrow a handkerchief. But before anyone offers you one, put *both* hands in your pockets. "Never mind," you say. "Here's one."



All this makes them think that any handkerchief will do. They won't suspect that anything has been done to yours.

Hold the knot in the corner as you bring out your handkerchief. Let the rest of it hang straight down. With your



other hand, take the lowest corner and bring it up so you can hold it with your fingers, still keeping the knot inside your hand.

Move your hand up and down, letting go the corner with your fingers so it flips down. Raise your hand and look at the hanging corner. No knot.

"It takes a couple of tries," you say as you repeat the motions. Again, no knot.

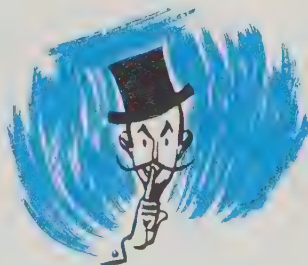
Take the hanging corner in your fingers again, and jerk it just the way you did before. This time, let go the

knot and hold on to the corner between your fingers. The hidden corner flips down. Now there is a knot!

Give the handkerchief to your friends. They can't find anything wrong.

Don't forget to try *twice* without getting a knot before you drop the corner with the knot in it. This keeps anyone from suspecting that the knot was already there. It makes the trick seem harder, too.

And don't forget to keep the back of your hand toward the people watching, so they won't see the knot before you want them to.



How to Read Sealed Messages

There are dozens of ways of reading what is written on paper sealed in envelopes. This is one of the best.

You need at least four or five people. Each writes his thought on a piece of paper and seals it in an envelope. One of them collects the envelopes. You read each thought and prove you are right by checking with each paper!

One person in your audience is a secret helper. He writes a thought you have both agreed on beforehand. When he seals his envelope, he bends one corner down.

When you get all the envelopes, pick up anyone *except* the one with the bent corner. Think hard, then say something like, "Someone is thinking of a number." (Or whatever else you have agreed on.) Ask whoever it is to stand up. Someone

else may have written a number and will stand up too. Give the first figure of the number you know. The other person will sit down. Slowly, as if it is very hard to do, give the rest of the number. Your friend admits it is correct.

Now comes the important part. Tear open the envelope. Take out the paper. It is *not* the number. It is another thought, written by someone else, because you were careful not to pick up your friend's envelope.

Look at the paper and say, "Yes, you wrote 83." Your friend nods and sits down.

While you were saying 83, of course, you saw what another person had written. Lay the envelope and paper down on the table and pick up a new one—but not your friend's. Leave his until last.

"Who is thinking of an animal?" you ask. Whoever wrote the name of



an animal stands up. Slowly, after making a couple of tries (“it is a wild animal,” etc.), give the name.

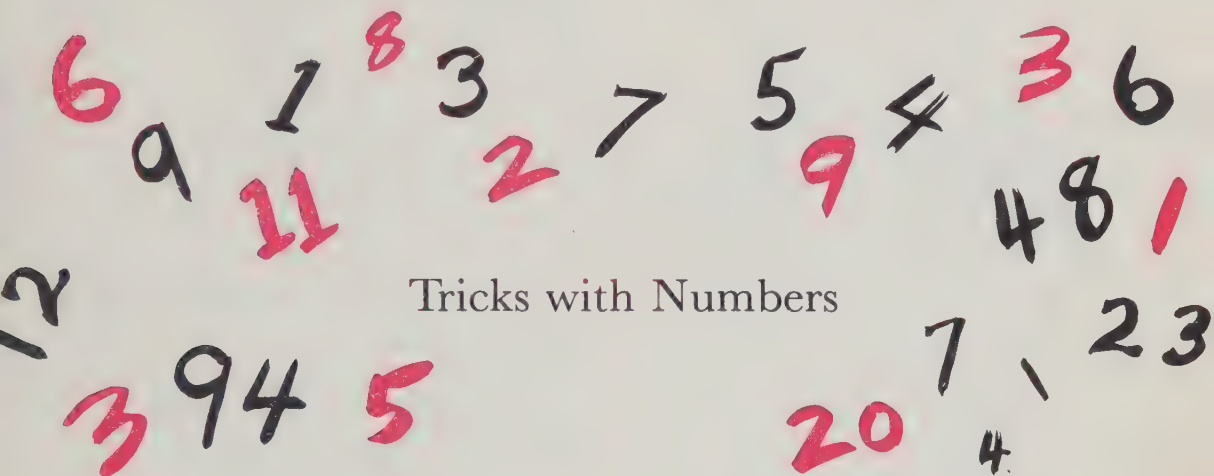
Tear open the envelope to see if you are right. Nod your head. “Yes, you wrote zebra.” (Or whatever it is.)

You are really reading the next thought.

You reach your friend’s envelope last.

Hold it up while you tell the thought that was in the envelope before his. Tear his open, nod, and pick up the rest of the envelopes. Add your friend’s paper and envelope to the *bottom* of the pile. Hold them all up. “That’s all,” you say.

Because you added your friend’s envelope to the bottom instead of the top, they are in the right order.



Tricks with Numbers

THE PREDICTED TOTAL

Here is an easy number trick that just can’t fail.

First give your friend a prediction on a piece of paper. He puts this in his pocket where you can’t touch it.

Then you ask him to write down any three-figure number—such as 981. Then he is to write it down backwards right underneath his first number—189. Now he is to subtract the smaller number from the larger. If the second, reversed number is larger than the one he started with, he has to subtract the first number from the second.

Last, he is to reverse this answer and add it to the answer of the subtraction. Taking the number we used as a sample, it would go like this:

$$\begin{array}{r}
 981 \text{ (any three-figure number)} \\
 -189 \text{ (reversed)} \\
 \hline
 792 \text{ (smaller subtracted from larger)} \\
 +297 \text{ (answer reversed)} \\
 \hline
 1089 \text{ (added)}
 \end{array}$$

He opens your prediction and reads: “1089!”

This is easy. *Any* three-figure number put through these steps will give 1089!

Number Magic

Some Exciting Tricks with Figures

Here's a honey to start with!

$$\begin{aligned}
 1 \times 9 + 2 &= 11 \\
 12 \times 9 + 3 &= 111 \\
 123 \times 9 + 4 &= 1111 \\
 1234 \times 9 + 5 &= 11111 \\
 12345 \times 9 + 6 &= 111111 \\
 123456 \times 9 + 7 &= 1111111 \\
 1234567 \times 9 + 8 &= 11111111 \\
 12345678 \times 9 + 9 &= 111111111 \\
 123456789 \times 9 + 10 &= 1111111111
 \end{aligned}$$

Here's a trick with number 8:

$$\begin{aligned}
 1 \times 8 + 1 &= 9 \\
 12 \times 8 + 2 &= 98 \\
 123 \times 8 + 3 &= 987 \\
 1234 \times 8 + 4 &= 9876 \\
 12345 \times 8 + 5 &= 98765 \\
 123456 \times 8 + 6 &= 987654 \\
 1234567 \times 8 + 7 &= 9876543 \\
 12345678 \times 8 + 8 &= 98765432 \\
 123456789 \times 8 + 9 &= 987654321
 \end{aligned}$$

Now look at the almost magical results you get when you multiply the numbers below.

$$\begin{aligned}
 9 \times 9 + 7 &= 88 \\
 9 \times 98 + 6 &= 888 \\
 9 \times 987 + 5 &= 8888 \\
 9 \times 9876 + 4 &= 88888 \\
 9 \times 98765 + 3 &= 888888 \\
 9 \times 987654 + 2 &= 8888888 \\
 9 \times 9876543 + 1 &= 88888888 \\
 9 \times 98765432 + 0 &= 888888888
 \end{aligned}$$

Ask your friend what digit he likes best. Then, by the following multiplication you give him that number—plenty!

Suppose the number 6 is selected. By mental arithmetic, you multiply the given number by 9. That gives you 54. Then write down the number 12345679. (Note that 8 is omitted). Then multiply this large number by 54. Here's what happens:

$$\begin{array}{r}
 12345679 \\
 \times 54 \\
 \hline
 49382716 \\
 61728395 \\
 \hline
 666666666
 \end{array}$$

You will get the same result with any other number.

Here's a simple arrangement of numbers that shows a tricky result:

1	14	15	4
8	11	10	5
12	7	6	9
13	2	3	16

The numbers in each column of this square add up to 34, whether you add them vertically, horizontally, or diagonally.

1	2	3	4	5	6	7	8	9
9	8	7	6	5	4	3	2	1
1	2	3	4	5	6	7	8	9
9	8	7	6	5	4	3	2	1
Plus								2
2	2	2	2	2	2	2	2	2



Spirit Writing

Here is a wonderful way to make writing appear between two pieces of cardboard tied tightly together.

You need two pieces of heavy white cardboard about ten inches square, a black crayon, and some string.

Have your friends examine the cardboard to be sure nothing is written on it. Help them tie both pieces tight together, with the knot on one side. Lay them on the table and turn out the lights.

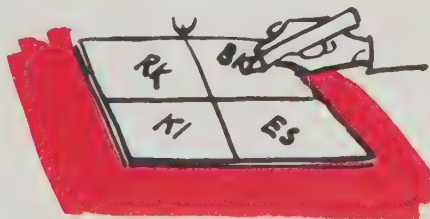
Very quietly, write the message on the top card—something like “Ha! Ha! Guess how I did this?” Just as quietly, turn the cards over. Turn on the lights and untie the string. Be careful not to

let anyone see the writing on the bottom.

Open the cards like a book. Look disappointed. “I don’t know why it didn’t work,” you say. “Let’s try again.”

This time put the top card *under* the other card. The writing is between them. Hold them tight together while someone ties them up again. As if you had just thought of it, have everyone write his initials on the outside of the package.

The trick is done. Have the lights turned off again for a minute. Then turn them on and ask someone else to untie the cards. Your friends will nearly fall over!



Secret Messages

INVISIBLE INK WRITING

To write secret messages use lemon juice instead of ink. You will not be able to see anything on the paper when the lemon juice has dried.

The person who gets this secret message holds the paper up to an unshaded light bulb and the heat from the bulb

will bring out the writing.

CODE WRITING

Another way to send a secret message is to have a code known only to you and the person you are sending the message to. You can make a code by numbering the letters of the alphabet, like this:



1	2	3	4	5	6	7	8	
A	B	C	D	E	F	G	H	
9	10	11	12	13	14	15	16	17
I	J	K	L	M	N	O	P	Q
18	19	20	21	22	23	24	25	26
R	S	T	U	V	W	X	Y	Z

Then, if you want to write the word *come*, you put down the figures 3, 15, 13, 5. The word *tonight* would be 20, 15, 14, 9, 7, 8, 20. Use a dash — to separate one word from the next. So *come tonight* would look like this: 3, 15, 13, 5 — 20, 15, 14, 9, 7, 8, 20.

Or, if you want to make it more difficult for outsiders to decode, you can make one stand for D. Then E would be 2, F would be 3, and so on. A would have to be the next figure after the one you have given to Z.

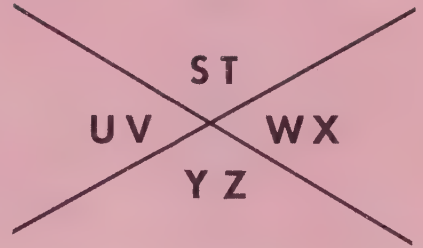
ANOTHER SECRET CODE

This code was used by the Confederate Secret Service during the Civil War.

You name the letters of the alphabet

according to where they stand in these two diagrams:

AB	CD	EF
GH	IJ	KL
MN	OP	QR



For example, instead of writing A you write , that is, the shape of the tick tack toe space A is written in. B is written in the same space, so you write B with a dot inside, . S would be

, and T would be , and so on.

See if you can write “Attack at midnight” in this code.

MIND READING—You can puzzle your friend by pretending to read his mind.

You say: “Think of a number and write it down.”

When he says he has done this, you tell him to double the number. Then you tell him to add 9, take away 3, divide by 2, and take away the number he first thought of.

“The answer is 3”, you say, in the tone of someone who has done a hard job of mind-reading. (What you *don’t* tell him is that whatever number he thought of, the answer would always be 3.)

Another way you can “guess” the number your friend thinks of is this:

You tell your friend to think of a number. Then you tell him to double it, and multiply the result by 5. You ask him, “What is the answer?” He tells you. You cut off the last digit of the number he gives you, and the remaining number is the number your friend first thought of.

For example, suppose he thought of 13. Twice 13 is 26. Five times 26 is 130. Cut off the end 0 and the remaining number is 13.

How Good is Your Memory?

Here's an Interesting Way to Find Out



You need a watch or a clock to play this game. Ask someone to time you. Allow yourself three full minutes to study the 20 pictures below.

When your time is up close the book and write down the names of as many objects as you can remember.

How to Tell Someone's Age

This Age-Guesser Does the Trick!

THE AGE-GUESSER

1	2	4	8	16	32
3	3	5	9	17	33
5	6	6	10	18	34
7	7	7	11	19	35
9	10	12	12	20	36
11	11	13	13	21	37
13	14	14	14	22	38
15	15	15	15	23	39
17	18	20	24	24	40
19	19	21	25	25	41
21	22	22	26	26	42
23	23	23	27	27	43
25	26	28	28	28	44
27	27	29	29	29	45
29	30	30	30	30	46
31	31	31	31	31	47
33	34	36	40	48	48
35	35	37	41	49	49
37	38	38	42	50	50
39	39	39	43	51	51
41	42	44	44	52	52
43	43	45	45	53	53
45	46	46	46	54	54
47	47	47	47	55	55
49	50	52	56	56	56
51	51	53	57	57	57
53	54	54	58	58	58
55	55	55	59	59	59
57	58	60	60	60	60
59	59	61	61	61	61
61	62	62	62	62	62
63	63	63	63	63	63

Ask your friend to tell you in which columns his age appears. Add up the numbers at the top of the columns indicated and the sum will be the sought-for age.

For example: Your friend's age is 28. This number, as you can see, is present in the third, fourth and fifth columns. The top numbers in those three columns are 4, 8 and 16—which add up to 28. Easy as pie!

Picture Arithmetic

What Words Do These Rebus Puzzles Represent?

WHAT
AARON
USED TO
PERFORM
MIRACLES



R +  +  - 

+  - **H** +  - **T**

-  -  =

SPARE
IT AND
SPOIL
YOUR
CHILD!



DON'T LET
THIS ONE
STING
YOU!



 +  + 

-  - **B** + 

-  -  =

A
BUSY-
BODY!



Add to the printed letters of the puzzle (or subtract from them) the letters that make up the names of the objects drawn. The boxes show you how many letters there are in the answer. Look at the comic figures at the sides. They may help you.

(Answers on page 407.)

More Picture Arithmetic

What Words Do These Rebus Puzzles Represent?

A
GANGSTER'S
HOTEL!



GT +  +  - Y

+  -  -  -

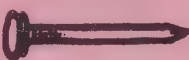
-  - K =

THERE'S
A REAL
POINT TO
THIS
ONE!



A
BLEMISH,
A
PLACE,
A
MARK!



 + H - 

+  +  - 

+  -  =

THE
THING I
AM
USUALLY
ON!



Add to the printed letters of the puzzle (or subtract from them) the letters that make up the names of the objects drawn. The boxes show you how many letters there are in the answer. Look at the comic figures at the sides. They may help you.

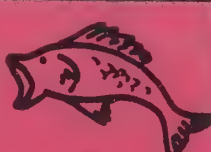
(Answers on page 407.)

More Picture Arithmetic

What Words Do These Rebus Puzzles Represent?

A MUSICAL SYMBOL

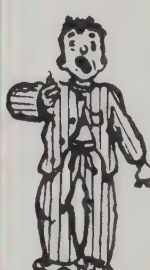


PL +  +  - 

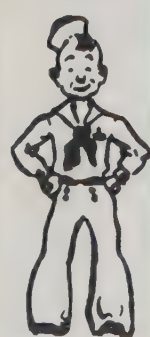
-  +  + SN - H - 9

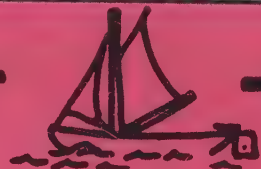
- K + T -  =

WHAT I ALWAYS NEED!



A SAILOR



 +  - 

+ A - C + 

-  + T =

MAKES THINGS TASTY

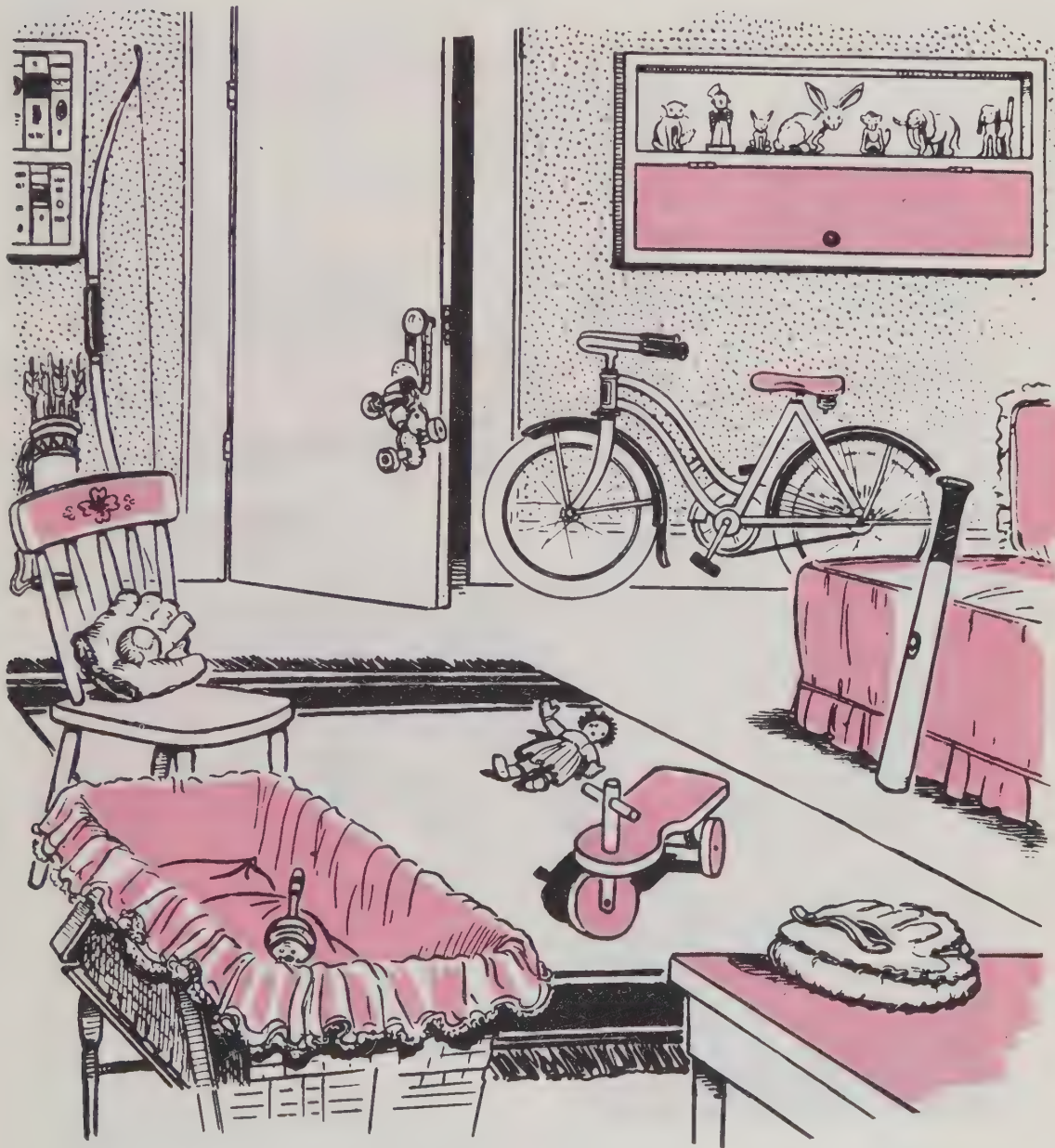


Add to the printed letters of the puzzle (or subtract from them) the letters that make up the names of the objects drawn. The boxes show you how many letters there are in the answer. Look at the comic figures at the sides. They may help you.

Answer on page 407

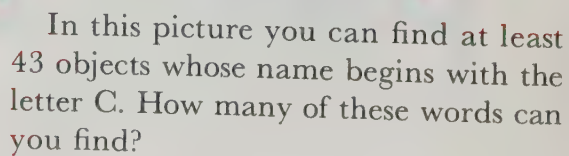
The Toy Problem

How Many Children Live in This House?



Answers on page 407

“I See a ‘C’ ”





Riddle Me This

Stump Your Friends with these Killer-dillers!

What kind of cat do you always find in a library?

A catalogue.

What table has no legs at all?

A timetable.

What is bought by the yard yet worn by the foot?

Carpet.

What is the difference between a bad boy and a postage stamp?

One you lick with a stick and the other you stick with a lick.

What is it that dogs have and nothing else has?

Puppies.

What is the difference between a husband and a jilted suitor?

One kisses the missus and the other misses the kisses.

Why is a hen sitting on a fence like a cent?

Because she has a head on one side and a tail on the other.

What must one do to have soft hands?

Nothing.

To what man do men always take their hats off?

The barber.

Why is a lollipop like a horse?

Because the more you lick it the faster it goes.

Where are happiness and contentment always to be found?

In the dictionary.

What is a girl always looking for that she doesn't want to find?

A run in her stocking.

What makes a pig the most unusual animal in the world?

Because you first kill him and then cure him.

What is the difference between an old dime and a new penny?

Nine cents.

Why is *O* the noisiest vowel?

All the other vowels are inaudible.

How can it be proved that a horse has six legs?

He has fore (four) legs in front and two behind.

What question can never be answered by "Yes"?

"Are you asleep?"

What is the longest word in the English language?

Smiles. There is a mile between the first letter and the last.



Daffynitions

Delirious Descriptions That Defy the Dictionary

ADULT A person who has stopped growing at both ends and started growing in the middle.

ANT A small insect that, though always at work, still finds time to go to picnics.

BORE One who insists upon talking about himself when you want to talk about yourself.

BRAT A kid who displays his pest manners.

BRIDGE A card game in which a good deal depends upon a good deal.

CAULIFLOWER A cabbage with a college education. (*Mark Twain*)

CHRISTMAS The season when we get the children something for their father to play with.

CLASSICAL MUSIC The kind that we keep hoping will turn into a tune. (*Abe Martin*)

COACH An athlete who will gladly lay down your life for the school.

DACHSHUND Half a dog high by a dog and a half long.

DENTIST A man who lives from hand to mouth.

DINER A restaurant where you can eat dirt cheap . . . but who wants to eat dirt?

HOSPITALS Places where people who are run down wind up.

MAYFLOWER A small ship on which several million Pilgrims came to America in 1620.

NIGHT CLUB A place which has taken the rest out of restaurant and put the din in dinner.

RHUMBA A dance where the front of you goes along nice and smooth like a Cadillac and the back of your makes like a jeep. (*Bob Hope*)

SKELETON A man with his insides taken out and his outsides taken off.

STRENGTH OF MIND A person who can eat one salted peanut.

TACT The ability to make your guests feel at home when you wish they were.

TRAFFIC LIGHT A little green light that changes to red as your car approaches.

USED CAR A car in first crash condition.

WINDOW SCREEN A device for keeping flies in the house.

KUH-WHIZZZZZZ

Queries about Everything under the Sun.

1. What does Popeye eat?
2. How many pounds in a ton?
3. What is a young cow called?
4. How many quarts in a gallon?
5. What is a papoose?
6. What is the largest state in the United States?
7. What is the smallest state in the United States?
8. What is the name for the shoes worn by Indians?
9. How many thousands are there in a million?
10. What animal neighs?
11. What is a shilling?
12. What is twelve dozen?
13. From which two states do we get oranges?
14. What two colors mixed together make green?
15. Whose picture is on our one dollar bills?
16. What Englishman did Pocahontas save from death?
17. What is the name of the boat used by the Indians?
18. In what country are the pyramids?
19. What is the home of bees called?
20. From what animal do we get ivory?
21. How many Great Lakes are there?
22. From what fruit is wine made?
23. Who purchased New York from the Indians?
24. In what state is the Great Salt Lake?
25. What instrument tells how hot or cold it is?

Answers on page 407



Jokes, Riddles, and Limericks

Jokes

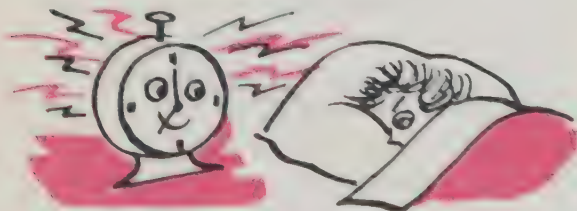
Mother: Now, Willie, you must not be selfish. You must let your brother have the sled half the time.

Willie: But, Mother, I do! I have it going down the hill, and he has it coming up.

★

Lively: I heard something this morning that opened my eyes.

Bored: Me, too—the alarm clock.



Waiter: These are the best eggs we've had for years.

Guest: Let's have some you've only had a few days.

★

Lady: Please tell me which platform I go to for the train to Boston.

Porter: Turn to the left and you'll be right.

Lady: Young man, don't be impertinent.

Porter: Okay, then turn to the right and you'll be left.

Bobby: Teacher, would you scold anybody for something he didn't do?

Teacher: Of course not. Why, Bobby?

Bobby: Well, I didn't do my arithmetic.

★

Pupil: I don't think I deserve a zero on this paper.

Teacher: Neither do I, but it's the lowest mark I can give.

★

Sweet Sue: What's the matter? You look worried.

Lazy Lou: Work—work—nothing but work from morning till night.

Sweet Sue: How long have you been at it?

Lazy Lou: Oh, I start tomorrow.

★

Al: I'm nobody's fool.

Cal: Maybe you can get someone to adopt you.



Diner: Do you serve crabs here?

Waiter: We serve anyone. Sit down.

★

Jane: We passed your house yesterday.

Lane: Thanks. We appreciate it!

★

Visitor: Is this a healthy place?

Native: It sure is. When I came here I couldn't utter a word. I had scarcely a hair on my head. I hadn't the strength to walk across the room. Why, I had to be lifted from my bed.

Visitor: That is wonderful! How long have you been here?

Native: I was born here.

★

Teacher: How many sexes are there?

Pupil: Three.

Teacher: Three? Can you name them?

Pupil: Male sex, female sex, and insex.

Sue: This is an ideal spot for a picnic.

Anne: It must be. Fifty million insects can't be wrong.

★

Teacher: Robert, have you whispered today without permission?

Robert: Only wunst.

Teacher: Frank, should Robert have said "wunst"?

Frank: No'm, he should have said "twic't."

Lanny: Do you think any one can tell the future with cards?

Danny: My Mother can. She took one look at my report card and told me exactly what would happen when Dad got home!

★

Barry: What part of an automobile kills the most people?

Harry: The nut behind the wheel.

Hi: My uncle can't decide whether to get a new cow or a bicycle for his farm.

Si: He'd certainly look silly riding around on a cow.

Hi: Yeah, but he would look a lot sillier milking a bicycle.

★

Betty: Ouch! I burned my finger in the hot water.

Letty: Why didn't you feel the water before you put your hand in it?

★

Dad: If you're good I'll give you this nice new penny.

Lad: Haven't you got a dirty old nickel?

★

Laddie: What has 24 feet, green eyes, and a pink body with purple stripes around it?

Maddie: I don't know. What?

Laddie: I don't know either, but you better pick it off your neck.

Susie: You'd be a fine dancer except for two things.

Oscar: What?

Susie: Your feet.

★

Tourist: Ever had any accidents?

Cowboy: No.

Tourist: Never had an accident in your life?

Cowboy: Nope. A rattler bit me once, though.

Tourist: Well, don't you call that an accident?

Cowboy: Naw, he bit me on purpose.

★

Dr. Drip: Look here, don't you know my consulting hours are from four to five P.M.?

Mr. Pipp: Yes, but the dog that bit me didn't.

★

Lilly: Can't you play tennis without all that noise?

Milly: No, how can you play tennis without raising a racket?

★

Mother: Sammy, there were two pieces of pie in the pantry this morning, and now there is only one. How is that?

Sammy: I don't know. It was so dark I suppose I didn't see the other piece.

★

Teacher: In what part of the world are the people most ignorant?

Smarty: In New York City.

Teacher: Really? What makes you say that?

Smarty: Well, my geography says that's where the population is most dense.

★

May: What do you grow in your garden?

Fay: Tired.

★

Skippy: Hey, mom, I got a hundred in school today.

Mom: That's wonderful! What did you get a hundred in?

Skippy: In two things. I got forty in readin' and sixty in spellin'.

★

Dick: I'm going to open a pet shop. When next you find me, I'll be among my little dumb animals.

Nick: Wear a hat so we'll know you.

★

Johnny: I fell over twenty feet last night.

Grandma: Mercy! Weren't you hurt?

Johnny: No. I was just trying to get to my seat in the movies.

★

Young Peter had just come back from an agricultural college. He was showing off to the neighboring farmer.

"Your farming methods are so old-fashioned," he said. "Why, I bet you don't get ten pounds of apples from that tree."

"I daresay you're right," said Farmer Jones. "That there's a pear tree."



Mr. Johnson was having trouble getting his number on the telephone. He'd been trying to make his wishes clear for fifteen minutes. Finally he shouted at the operator, "Am I crazy or are you?"

In her sweetest voice, the telephone operator replied, "I'm sorry, sir, but we do not have that information."



A tutor who tooted a flute
Tried to tutor two tooters
to toot,
Said the two to the tutor,
"Is it harder to toot, or
To tutor two tooters to toot?"

Riddles

What is the hardest thing about learning to ride a bicycle?

The Pavement.



What has four eyes and runs more than 2000 miles?

The Mississippi.



Three girls walked to school under one umbrella. Why didn't any of them get wet?

It wasn't raining.

What word will make you sick if you take away the first letter?

Music.



Why is a sheet of writing paper like a lazy dog?

A sheet of writing paper is an ink-lined plane; an inclined plane is a slope up; a slow pup is a lazy dog.



Why is the Statue of Liberty's finger eleven inches long?

Because if it were twelve inches long it would be a foot.



When is a black dog most likely to enter a house?

When the door is open.



What are the two strangest happenings?

A deaf and dumb man picked up a wheel and spoke; a blind man picked up a hammer and saw.

Two Indians are standing on a bridge.
One is the father of the other one's son.
What relation are the two Indians?

Husband and wife.

★

If your uncle's sister is not your aunt,
what relation is she to you?

Your Mother.

★

Spell enemy in three letters.

No, not N.M.E.—but F O E.

Is there a word in the English language
that contains all the vowels?

Yes, unquestionably.

★

What two things which Adam never
possessed did he give to his children?

Parents.

★

What is the best butter in the world?

A goat.

★

What is lighter than a feather yet harder
to hold?

Your breath.

★

What letter is never found in the alpha-
bet?

The one you put in the mail.

★

Why doesn't a train ever sit down?

Because it has a tender behind.

★

What did the rug say to the floor?

Don't move, I've got you covered.

★

What bird can lift the heaviest weights?

The crane.



What has three feet but cannot walk?

A yard.

★

How can you have a set of teeth in-
serted free?

Tease a watchdog.

★

What's so peculiar about the way a
horse eats?

*He eats best without a bit in his
mouth.*

What animals have their eyes nearest
together?

The smallest.

★

Why is an airplane like a deadly poison?

One drop is sure to kill.

★

What must you keep after giving it to
someone else?

Your word.

★

What question is it to which you must
positively answer yes?

What does Y-E-S spell?

★

Which 50 coins add up to a dollar?

40 pennies, 8 nickels, 2 dimes.

★

Why is an island like the letter T?

Because it's in the middle of water.

Why did the moron go to the football game?

Because he thought the quarterback was a refund.

★

What's smaller than an ant's mouth?

What goes into it.

★

Why is a pig in the parlor like a house on fire?

The sooner both are put out the better.

★

When is a baseball player like a spider?

When he catches a fly.

★

Why is A like a honeysuckle?

Because a B follows it.

★

What do we have in December that we do not have in any other month?

The letter D.

★

What animal do you look like when you go in swimming?

A little bear.

★

What is the best thing to put into pies?

Your teeth.

★

What international catastrophe would be caused by a waiter who dropped a platter on Thanksgiving?

It would be the downfall of Turkey, the overthrow of Greece, and the destruction of China.

★

What is a pig after it is three days old?

Four days old.

What is it that can speak all languages?

An echo.

★

Where does Thursday come before Wednesday?

In the Dictionary.

★

When you lose something why do you always find it in the last place you look?

Because you stop looking when you find it.

★

What is it that never uses its teeth for eating purposes?

A comb.

★

If two's company and three's a crowd, what are four and five?

Nine.

★

What word is always pronounced wrong?

Wrong.

★

What is the difference between the North Pole and the South Pole?

All the difference in the world!



What animal took the most luggage
into the Ark and what animal took the
least?

*The elephant took his trunk; and
the rooster had only a comb.*

★

What is the difference between a U.S.
President and an old hat?

*One is sworn in and the other is
worn out.*

★

Is it ever correct to say "between you
and I?"

*Yes. When you say "'n' comes be-
tween 'u' and 'i' in the word
'united'."*

★

What kind of coat is made without but-
tons and put on wet?

A coat of paint.

★

Why is the letter B like fire?

Because it makes oil boil.

★

When the clock strikes 13 what time is
it?

Time to get it fixed.

Limericks

There was an old man of Tarentum
Who gnashed his false teeth till he bent
'em.

When asked what they cost
And how much he lost,

He said, "I don't know. I just rent 'em."

There was a young lady named Hannah
Who slipped on a peel of banana.
More stars she espied
As she lay on her side
Than are found in the Star Spangled
Banner.

There was a young lady of Lynn
Who was so excessively thin
That when she essayed
To drink lemonade
She slipped through the straw and fell in.

There was a young man so benighted
He never knew when he was slighted;
He could go to a party
And eat just as hearty
As if he'd been really invited.

There was a young lady of Crete
Who was so exceedingly neat
When she got out of bed
She stood on her head
To make sure of not soiling her feet.



A canner, exceedingly canny,
One morning remarked to his granny,
"A canner can can
Anything that he can,
But a canner can't can a can, can he?"

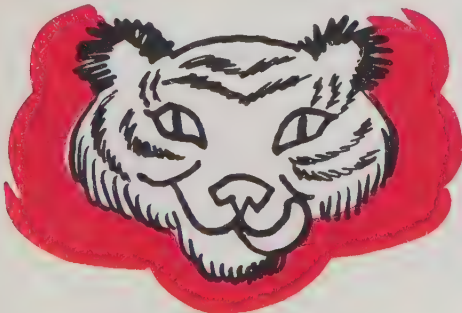
For beauty I am not a star;
 There are others more handsome by far;
 But my face, I don't mind it,
 For I am behind it;
 It's the people in front that I jar.



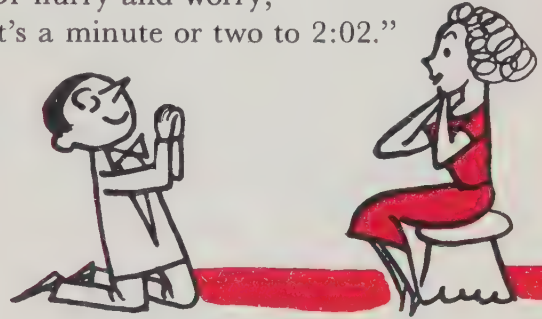
A cat in despondency sighed
 And resolved to commit suicide.
 He got under the wheels
 Of nine automobiles,
 And after the last one he died.



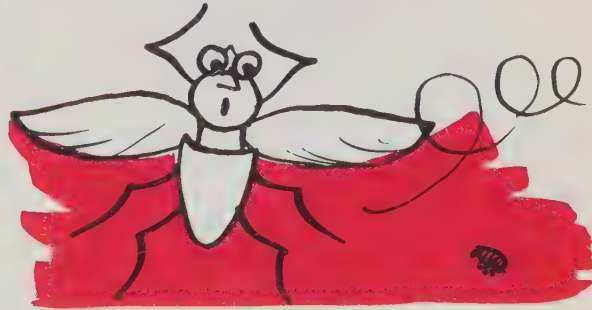
There was a young lady of Niger
 Who smiled as she rode on a tiger.
 They returned from the ride
 With the lady inside
 And the smile on the face of the tiger.



There was a young woman named Sue
 Who wanted to catch the 2:02.
 Said the trainman, "Don't hurry
 Or flurry and worry;
 It's a minute or two to 2:02."



A certain young fellow named Beebee
 Wished to wed with a lady named
 Phoebe.
 "But," he said, "I must see
 What the clerical fee
 Be before Phoebe be Phoebe Beebee."



A flea and a fly in a flue
 Were imprisoned; so what could they do?
 Said the fly, "Let us flee."
 Said the flea, "Let us fly."
 So they flew through a flaw in the flue.

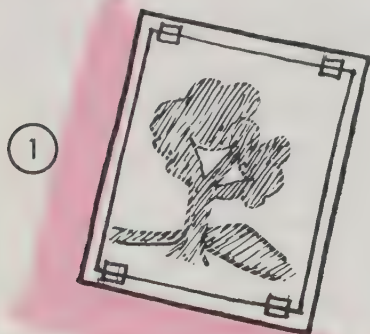
Tracing and Pattern-Making

Tracing Directions

You can buy tracing paper at any stationery store.

To trace a picture onto a piece of paper or a card this is what you do:

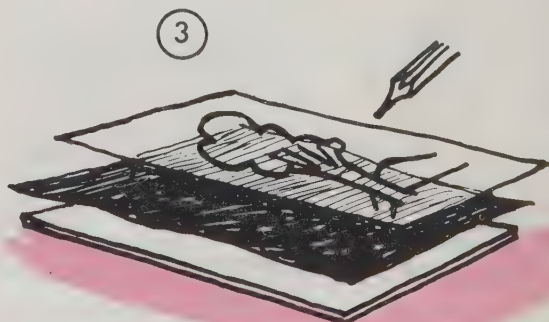
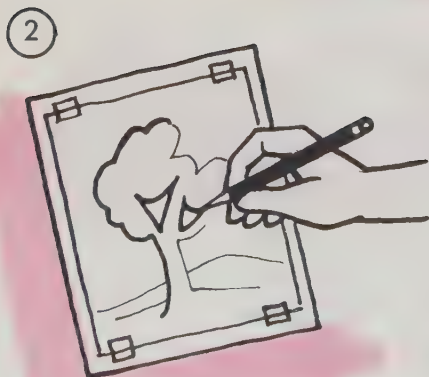
1. Lay a piece of tracing paper on the picture. Use paper clips or scotch tape to hold them together, if necessary (*Picture 1*).



2. Go over every line of the picture with a pencil (*Picture 2*).

3. Now lay the tracing on your paper or card, with a piece of typewriter carbon paper, face down, in between, and go over the whole tracing with a hard pencil (*Picture 3*).

When you are doing soap sculpture or linoleum cuts, you can outline your tracing with pin-pricks (*Picture 4*). In those cases, you will not need carbon paper.



How to Make and Use Patterns

TO MAKE THE PATTERN

If you have something you want to make exact copies of, you can cut out a pattern. It will be easy to use and long-lasting.

By following the instructions on tracing (page 400) you can make a tracing of whatever picture or design you have chosen to copy.

Paste this tracing on cardboard and cut out (Picture 1).



TO USE THE PATTERN

Place the cardboard pattern you have just made on the material you are using and cut out again.

If you need several pieces of the same pattern, fold the material and cut all the pieces at one time (Picture 2).



Stop, Look, and Listen!

The best way to keep yourself from being hurt is to learn safety habits. Learn to follow a few simple rules and make them into habits. In that way you may not only keep yourself from getting hurt but you may even help cut down the number of accidents to other people, in your home and in your neighborhood.

HOW TO BE SAFE IN YOUR HOME

More people have accidents in their own homes than anywhere else. So you will want to know what you can do to make your own home safer. Here are some suggestions:

1. Get into the habit of putting away your toys when you have finished playing with them. One reason is that you will know where to find them next time you want to play with them. But there is an even more important reason. Things like trains, roller skates, and tricycles left lying around, on stairs and landings, can cause serious accidents. Think how badly you would feel if your father or mother or brother or sister happened to trip over your roller skates in the dark and fell down-stairs! All because *you* didn't put them away!
2. There are certain knobs and handles and faucets in the kitchen and bathroom that your Mother

tells you not to touch. She has a good reason for what she says. She knows you might turn on the gas or the electricity or the water, and you might not know how to turn it off again. Any of those things can lead to serious trouble.

3. Remember that matches and guns are not meant to be played with. Leave them alone until you know exactly how to handle them safely. Even when you are old enough to use a gun, get the habit of always unloading it before putting it away. And never at any time point a gun at anyone, whether the gun is loaded or unloaded.
4. Do not touch a hot stove or a hot iron. And do not touch pots and pans that are on the stove. You may spill what is in them and scald yourself badly.
5. Never touch bottles or jars that are kept in the medicine cabinet. You may want an empty one



sometimes, and if you do, tell your Mother and she will know which bottle or jar it is safe for you to have.

6. If you want to cut a piece of wood or sharpen a pencil with a knife, hold the wood or pencil pointed *away from you* so that you cut away from you.

HOW TO BE SAFE WHEN YOU PLAY OUTDOORS

ON YOUR SLED—Do not stand up in a sled.

Use it only in an area that is well covered with snow, and where there is no traffic. And do not attempt steep slopes until you have done a good deal of sledding.

Keep out of the way of sleds coming downhill while you are walking uphill with your sled.

ON SKATES—Take good care of your skates. Oil roller skates regularly and replace worn wheels. Be careful to fasten them securely to your shoes, and wear shoes that can be properly fastened.

Choose smooth stone or concrete to skate on. If you skate on the sidewalk, stop at driveways and alley entrances to make sure no motor vehicle is driving out to the street. Do not skate on busy, crowded sidewalks. And stay on the right side of the sidewalk to give pedestrians a clear passage.

Do not skate on ice except where someone is on duty as supervisor. And

do not go beyond the ropes where the ice may be thin.

ON YOUR BICYCLE OR TRICYCLE—Practise riding your machine in your own yard, if you have one, or in a special play area. Your mother will let you take it onto the sidewalk as soon as she thinks it safe for you to do so.

When you do start riding on the sidewalk, remember to get into the habit of keeping to the right, out of the way of people who are walking.

Do not ride after dark, and stop when you come to driveways and alley entrances, because a truck or car might be driving out just at that moment.

Do not stand up when you are riding a tricycle, and do not climb on the back of a tricycle someone else is riding. This makes it hard for the rider to keep a balance, and might cause a spill.

Never race another tricycle except in a big safe playground.

Have a bell on your tricycle, and use it only to warn others, not simply to make a noise.

In riding a bicycle the chief things to remember are:

1. Know and obey the traffic laws.
2. Walk your bicycle across streets where the traffic is heavy, and over railroad crossings.
3. Do not hold on to a moving vehicle.
4. Do not ride two abreast.
5. Do not practise stunt-riding except in a big empty space.

6. Where bicycling is allowed on sidewalks, ride slowly and carefully when you pass people who are walking.
7. Come to a halt and look about you before riding out into the street from a driveway.
8. When you are not using your bicycle, put it away in a rack or prop it up on a 'standard.' Then people will not be so likely to stumble over it.

IN THE WATER—Swimming in the ocean is safer when there is a lifeguard on the beach, watching you. But even then stay close to shore in case you get into an under-current. Even a good swimmer may be carried a good way out to sea by a strong under-current.

Stay close to the banks of pools, lakes, and rivers too if you cannot swim, because it is not always possible to see the bottom and know how far you can go without getting out of your depth. Even if you *can* swim, and know how to dive never dive unless you are *sure* you are diving into deep water.

Be especially careful if you are bathing or fishing from a boat. Do nothing that may upset the boat. And it is best not to get into a boat at all until you have passed a swimming test.

IN TRAFFIC—Walk to the corner of the block before crossing the street.

Stop at the curb when you reach the corner. Look at the traffic light. If it shows green, meaning you can go ahead,

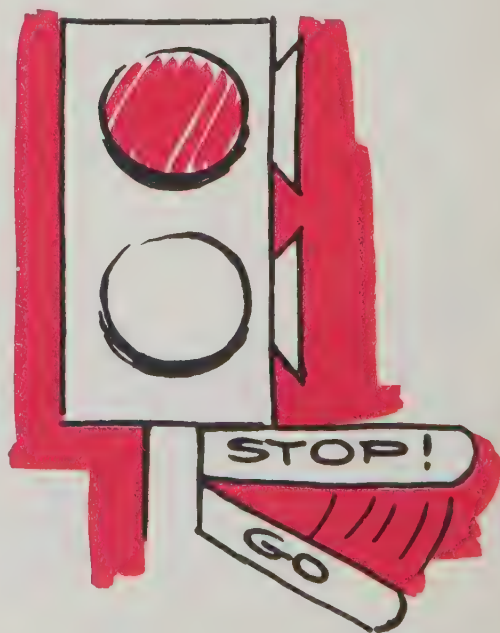
take a good look around you to see if a car or truck is approaching from a side street to turn the corner. If there is, wait for the vehicle to pass.

Walk straight across the street from curb to curb.

Stay on the sidewalk except when you want to cross the street again, on a green light.

PLAYING BALL—A playground is the place to play ball in, or your own backyard. But sometimes on the way to a playground you may accidentally let your ball roll off the sidewalk onto the roadway. If this happens, don't run after it. Keep your eye on it, and when the traffic stops to obey a red light you will be able to go after your ball quite safely.

Keep this rule in mind too if you are going after a ball that someone has thrown or hit over the playground fence. If the ball lands on a roadway, don't run after it. Wait for the traffic to stop first.



Answers to What's Wrong Cartoons

PUZZLE NO. 1

Sign on wrong side of door
Not a machine shop
Word "inn" should be "in"
No door knob
Hinges on wrong side of door
Nothing holding electric light
One fan blade missing
Flower in vase has two different kinds
of leaves and flowers on one stem
Telephone receiver upside down
One leg of chair doesn't match
Back of chair broken
One blade of scissors too long
Man's chair has no back
Man has a woman's shoes on
Man has his hat on indoors in presence
of lady
Bow on hat band on wrong side
Fringe on one end of rug missing
Ice is not used in water coolers today
One side of picture frame missing

PUZZLE NO. 2

Wrong kind of tail on pig
Apples growing on a bush
Ducks do not roost in trees
Wrong position for a bird's feet when
flying
Mule's head is so large it could not get
through the window
Chicks cannot swim
There are shoes on the pig

Owl out in the daytime
One ear on the rabbit is longer than
the other
Cow is getting up wrong
Wrong kind of feet on duck
Pigs do not wear eye-glasses
Sign misspelled

PUZZLE NO. 3

Man's pants legs don't match
Fancy chandeliers don't hang in a
garage
Valve wrong on automobile inner tube
Hammer head put on wrong
Man's ear is backwards
Hound has wrong kind of tail
Word "glass" is misspelled on box
Pears do not grow on bushes
Arm of boy on box backwards
Spoke missing in automobile wheel
Gutter on garage upside down
Handle on pail in wrong place
Prongs of rake go in opposite directions
Clothes are not hung on TV aerial

PUZZLE NO. 4

Word "the" misspelled on show sign
The cent sign misplaced on ticket booth
Ticket seller using wrong end of mega-
phone
Flags blowing in opposite directions
Peddler has banana sign but is selling
apples
Peddler has six fingers on one hand

One balloon of the bunch is not fastened
 Man in distance has one short and one
 long trouser leg
 Man in foreground is smoking cigar and
 pipe
 Rope should not be across entrance
 Stripes on boy's pants legs do not run in
 same direction
 Birds do not wear hats
 Apple peddler has only half a mustache
 Man in foreground has hat brim turned
 incorrectly

PUZZLE NO. 5

Electric lights burning in daytime
 Automobile parked on wrong side of
 street
 Automobile wheels are not alike
 Wrong end of canoe is tipped up
 Man's newspaper is upside down
 Tree has two different kinds of leaves
 Boy and girl on grass where sign says
 "Keep off"
 Chickens do not swim
 Tree is growing out of the water
 Pigeons do not perch in bushes.
 Men on bench where sign states "for
 women and children only"
 Tree trunks are thinner near the ground
 than where they branch
 Cat has wrong kind of tail
 Squirrels do not wear vests

PUZZLE NO. 6

Word "drinks" is misspelled
 Chair hanging out of window
 One of horse's hoofs is wrong
 Horse and wagon on wrong side of street
 Reins are missing from horse's harness

Pumpkins do not have leaves like those
 shown in wagon
 Horse's ears incorrect
 Traffic officer is wearing fireman's hat
 Boy on bicycle on wrong side of street
 Rear wheel of bicycle too large
 Dogs do not smoke
 TV aerials are not put on lamp posts
 Car parked on sidewalk
 Fire hydrant out in street
 Awning striped only halfway
 Man in foreground has his coat on back-
 wards

PUZZLE NO. 7

Woman is pushing swing from wrong
 side
 Sign "No Trespassing" misspelled
 6x9 is 54, not 45
 Wrong number of stripes in flag
 A dog cannot climb a lamp post
 A dog does not meow
 A cat does not bark
 End of board on seesaw under heavier
 child should be down instead of up
 Word "Allowed" misspelled on sign
 Bats do not fly in the daytime
 Man's pipe is upside down
 Wrong end of flag fastened to pole
 Flag and smoke are blowing in opposite
 directions
 Handle of axe upside down
 One of swing ropes is missing
 Dog in yard where not permitted

PUZZLE NO. 8

Woman shopping in evening gown
 Cigar sign on bread case

Cigars are not sold by the quart
 No drawer in cash register
 Cars are not washed in grocery
 Clerk's tie on backwards
 Shoes are not sold in grocery
 Woman behind counter wearing hat
 Bottle of milk in soda bin
 Mice do not come out where there are people
 Man has his hat on crosswise
 Rabbits are not kept on grocery shelves
 Boy has nothing by which to pull his wagon
 Numbers on clock are backwards

ANSWERS TO PICTURE ARITHMETIC

PICTURE ARITHMETIC *Page 384*

- (A) $R + \text{STOVE} + \text{SHOE} - \text{VEST} + \text{DUCK} - H + \text{TABLE} - T - \text{CAKE} - \text{BLOUSE} = \text{ROD}$
 (B) $\text{BRUSH} + \text{BALE} + \text{PLATE} - \text{SHELL} - B + \text{HOE} - \text{AUTO} - \text{HARP} = \text{BEE}$

MORE PICTURE ARITHMETIC *Page 385*

- (A) $\text{GT} + \text{PIPE} + \text{TURKEY} - Y + \text{CLOWN} - \text{TURTLE} - \text{COW} - \text{PIG} - K = \text{PEN}$
 (B) $\text{SNAIL} + H - \text{NAIL} + \text{ELEPHANT} + \text{CAT} - \text{HATCHET} + \text{POT} - \text{PLANE} = \text{SPOT}$

MORE PICTURE ARITHMETIC *Page 386*

- (A) $\text{PL} + \text{HORSE} + \text{KNIFE} - \text{FISH} - \text{PEN} + \text{CHICKEN} + \text{SN} - H - \text{NINE} - K + T - \text{CLOCK} = \text{REST}$

$$(B) \text{SOCK} + \text{BOAT} - \text{BOOK} + A - C + \text{LOG} - \text{GOAT} + T = \text{SALT}$$

ANSWERS TO PICTURE PUZZLES

THE TOY PROBLEM

Page 387

Five children. One baby (rattle); one little girl (doll); one older girl (girl's bicycle); two boys (one baseball glove for right-handed player, one baseball glove for left-handed player).

KUHWIZZ. *Page 391*

1. Spinach
2. 2000
3. Calf
4. Four
5. Indian Baby
6. Texas
7. Rhode Island
8. Moccasins
9. One thousand
10. Horse
11. English coin
12. 144
13. California and Florida
14. Blue and yellow
15. George Washington
16. Captain John Smith
17. Canoe
18. Egypt
19. Hive
20. Elephant
21. Five
22. Grapes
23. Peter Minuit
24. Utah
25. Thermometer





